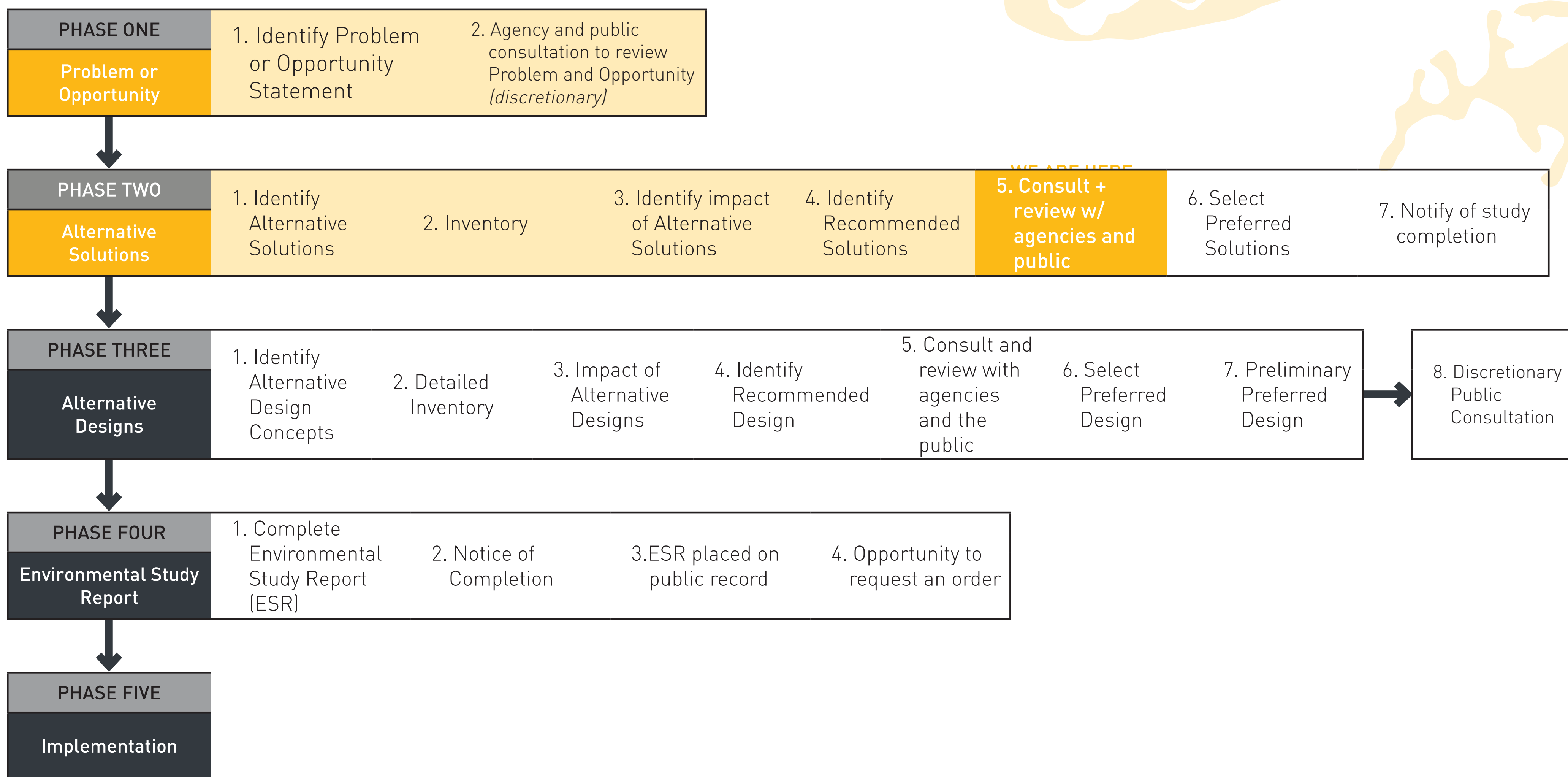


PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

THE EA PROCESS



Streets



Transit



Water as a Resource



Municipal Servicing

WHAT IS A MASTER PLAN?

The Port Lands Transportation and Servicing Master Plan is made up of streets, transit, and municipal servicing that work together. Infrastructure includes transportation (transit, trucks, cycling, walking), stormwater, wastewater and water. The EA Process begins by understanding existing conditions and identifying issues in each of the systems identified.

EA APPROACH

The Port Lands and South of Eastern presents an opportunity to develop large areas of underutilized land, located in close proximity to downtown Toronto, into a collection of diverse mixed use and employment precincts. When completed, the Transportation and Servicing Master Plan (TSMP) will play a critical role in this future transformation. The Master Plan will complete Phases 1 and 2 under the Municipal Class EA process.

The transportation system includes an expanded network of streets that will enhance movement between the new precincts, as well as between the Study Area and the city and region. It has been planned to balance the complex considerations of land use planning, the natural environment, infrastructure requirements and urban design, while prioritizing the planning objectives. It will provide a framework for, and determine the quality of, the public realm as well as ensuring the efficient movement of people and goods, and will have an immense impact on quality of life for all who live, work or visit the Port Lands. It will help guide decisions over time and ensure that the City of Toronto is able to capitalize on future opportunities.

Water will be managed in a sustainable way and has been identified as a resource with potential beyond human consumption. In addition to the tradition requirements of an EA to address questions such as health and safety, stormwater will be showcased and utilized within the public realm for scenic and educational purposes, building upon and contributing to the naturalization of the Port Lands.

PROGRESS SINCE THE LAST PUBLIC MEETING

The project team presented the initial street, transit and servicing alternatives to the public for comment in February and March, 2014. The initial list of alternatives was refined through the incorporation of public feedback, continued analysis and assessment, screening of alternatives and consideration of related studies. As well, additional key constraint information was available that allowed a more detailed analysis of the initial alternatives. The resulting final set of short-listed alternatives was comprehensively reviewed against a set of evaluation criteria. Several of the alternatives that were assessed were updated as a result of key factors. These changes include:

- Lake Shore Boulevard (Maintain, Urbanize and Widen) are no longer being addressed in the Port Lands and South of Eastern EA. Lake Shore Boulevard is now being addressed in the Gardiner East EA;
- The City of Toronto initiated an update to the Waterfront Sanitary Servicing Master Plan in Spring 2015. Wastewater alternatives for the Port Lands and South of Eastern EA are no longer assessing where in the larger system sanitary flows will discharge. The EA is focused on providing the network of pipes needed to support development within the study area;
- The Council adopted Land Use Direction and the subsequent refinements resulted in the need to revisit transit mode split assumptions and the vehicular capacity required to support development; and
- Completed feasibility analyses and screened out certain alternatives, including a Ship Channel crossing at Carlaw Avenue due to the newly constructed Hydro One Switching Yard and all Broadview extension alternatives that went over the rail embankment.
- Additional information of key constraints was available and more detailed analysis was completed to assist in refining a number of the alternatives.

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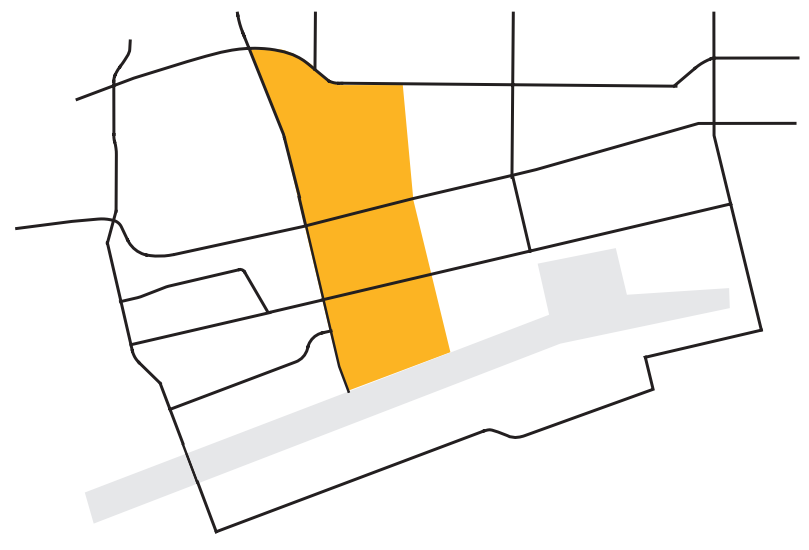
EVALUATION CRITERIA

The evaluation criteria developed for the EA uses the six Revitalization Objectives initially developed as part of the process as a foundation. Alternatives were evaluated against a series of criteria that would assist in achieving the Objectives using both qualitative and quantitative measures. Not all of the criteria apply across the different types of infrastructure being assessed in the EA. Further, some of the criteria, such as flood risk potential, are not applicable in all sub areas.

OBJECTIVES AND CRITERIA		MEASURE	Transportation	Water	Wastewater	Stormwater Management
CREATING AN INTERESTING + DYNAMIC URBAN MIX	Creation of new, vibrant mixed use communities and employment areas	Ability to facilitate creating vibrant new neighbourhoods/employment growth	✓	✓	✓	✓
		Ability to create viable development blocks	✓	✓	✓	✓
	Necessary capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	Ability to provide the necessary capacity	✓	✓	✓	✓
		Percentage of ROW dedicated to active transportation	✓			
	Impacts and opportunities for existing/planned neighbourhoods	Ability of the alternative provide opportunities for improvements for existing neighbourhoods	✓	✓	✓	✓
		Number of existing residential units potentially displaced	✓	✓	✓	✓
		Likelihood of non-local traffic in residential area and ability to manage traffic infiltration	✓			
	Impacts to existing businesses and industry and opportunities for new businesses and industry	Displacement of existing businesses and industry to remain	✓	✓	✓	✓
		Ability to support the establishment of new businesses and industry	✓	✓	✓	✓
		Ability to facilitate dedicated truck routes to/from Lake Shore Boulevard + the DVP	✓			
CONNECT THE PORT LANDS TO THE CITY	Better connects the Port Lands with the South of Eastern area and the rest of the city	Ability to better connect the area for all users and services	✓	✓	✓	✓
		Ability to facilitate achieving an appropriate hierarchy and rhythm of public streets	✓			
		Ability to provide enhanced direct connections to destinations	✓			
		Ability to improve walking/cycling distances improved to major destinations	✓			
	Redundancy in the network for better access/service	Contribution to redundancy in the network to allow for better access/service	✓	✓	✓	
	Impacts to existing physical barriers	Nature and extent of physical barriers that would be impacted by the alternative (More barriers/greater impact = very poor)	✓		✓	✓
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	Ability to provide linkages between natural habitat/and open spaces	✓			✓	
	Ability to contribute to urban biodiversity	✓			✓	
LEVERAGE ASSETS	Cultural heritage resources	Significance of impacts to cultural heritage resources (eg. number or resources and/or greater significance of impact = very poor)	✓	✓	✓	✓
		Ability to mitigate impacts	✓	✓	✓	✓
		Ability to frame and celebrate heritage resources	✓			
	Archaeological resources + traditional uses of Aboriginal people	Nature of impacts to archaeological resources + traditional uses of Aboriginal people	✓	✓	✓	✓
		Ability to mitigate impacts	✓	✓	✓	✓
	Impacts to existing/planned parks and open spaces and opportunities for enhancements	Ability to enhance existing/planned parks + open spaces	✓			
		Nature and extent of potential impacts	✓	✓	✓	✓
		Ability to provide net environmental gains	✓			
	Compatibility with the natural environment	Nature and extent of potential impacts	✓	✓	✓	✓
		Ability to minimize the potential for an adverse effect on water quality and aquatic species	✓	✓	✓	✓
Ability to improve or negatively impact groundwater		✓	✓	✓	✓	
Creation of visual connections	Ability to provide visual connections to the study area's assets and important features	✓				
DEVELOP A HIGH-QUALITY PUBLIC REALM	Achievement of the complete street principles + desired street character	Ability to achieve the complete street principles and desired street character	✓			✓
		Linear km of new, physically separated, continuous, high-quality cycling facilities	✓			
	Provision of safe, continuous and connected cycling routes	Ability to complete or provides linkages to existing/future cycling network	✓			
		Ability to provide opportunities for placemaking	✓			
	Place-making opportunities	Ability to integrate water as a resource	✓			✓
		Ability to improve existing unsafe conditions	✓	✓	✓	✓
Minimizes and/or improves health and safety issues	Ability to meet minimum design standards + criteria achievable	✓	✓	✓	✓	
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY	Opportunities for innovation	Ability to provide innovative features in the design of the alternative	✓	✓	✓	✓
	Transit accommodation	Ability to, and implications of, connecting with adjacent transit network	✓			
		Ability for alternative to accommodate appropriate transit service	✓	✓	✓	✓
	Creation of flood risk potential and mitigation potential	Flood risk potential created and ability to mitigate flood risk	✓	✓	✓	✓
	Noise and air quality conditions	Ability to contribute to improving noise and air quality	✓	✓	✓	✓
Climate change resiliency potential	Promotes reduction of greenhouse gas (e.g. through LID, minimizing pumping stations or potential to reduce congestion points)	✓	✓	✓	✓	
IMPLEMENTATION	Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	Ability to support the growth intention of the Official Plan and Central Waterfront Secondary Plan	✓	✓	✓	✓
		Ability to address Waterfront Toronto objectives/frameworks	✓	✓	✓	✓
		Supports achieving provincial planning policies and guidelines	✓	✓	✓	✓
	Consistency with approved area Environmental Assessments	Extent and nature of impacts on planned infrastructure with approved Environmental Assessments	✓	✓	✓	✓
		Key technical challenges	✓	✓	✓	✓
	Engineering feasibility and construction cost	Initial construction costs and factors	✓	✓	✓	✓
		Ability to phase implementation and adapt to changes in phasing and timing of development	✓	✓	✓	✓
		Adaptability to future land use changes and intensification	✓	✓	✓	✓
	Impacts on existing municipal infrastructure and utilities	Nature and extent of utility impacts	✓	✓	✓	✓
		Nature and extent of potential impacts to municipal infrastructure anticipated to remain	✓	✓	✓	✓
Property acquisition costs	Approximate number of hectares of privately owned lands required to be acquired with existing development anticipated to remain	✓	✓	✓	✓	
Maintenance and operations implications	Level of maintenance required (eg. high = very poor)	✓	✓	✓	✓	

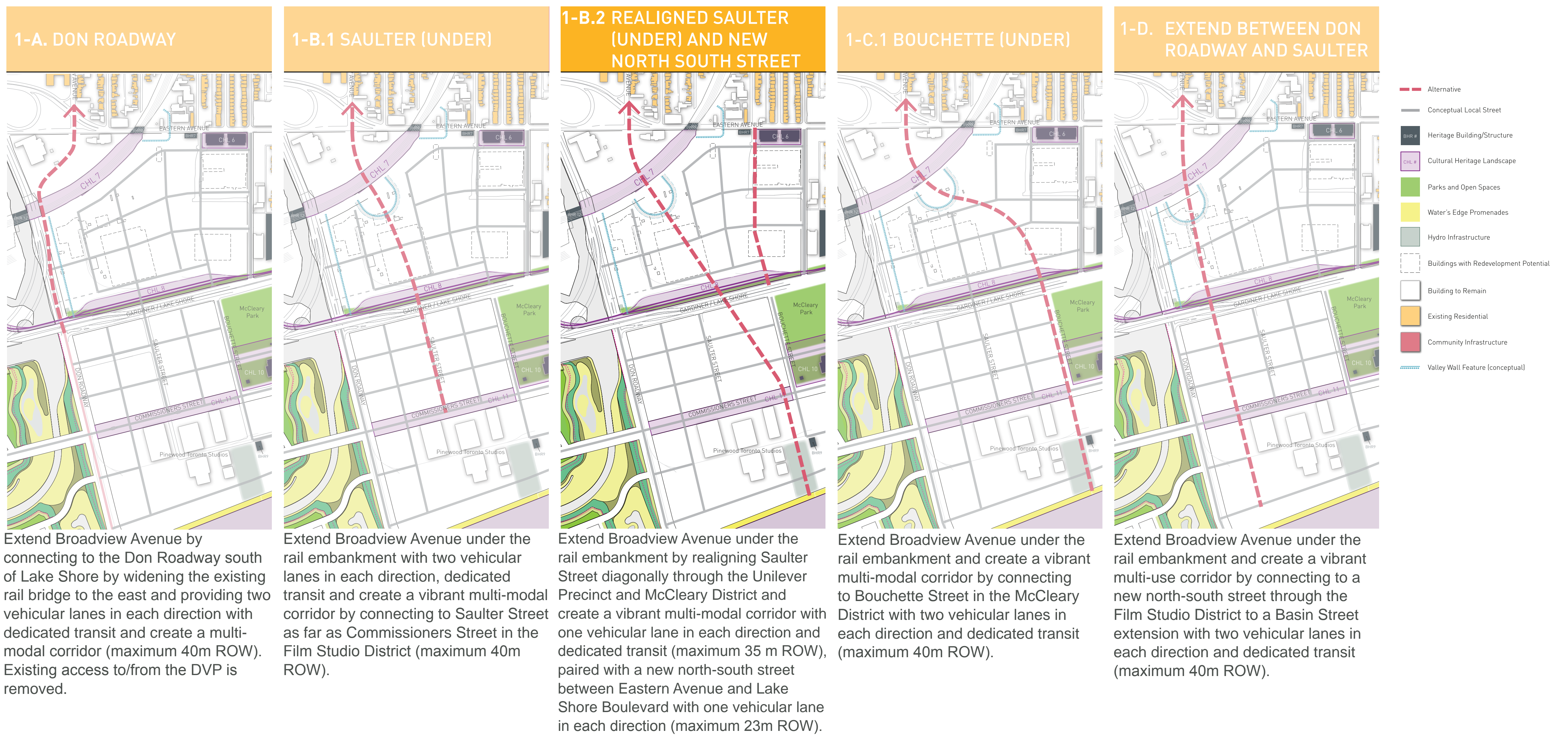
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SUB AREA 1: BROADVIEW



The alternatives explored in Sub Area 1 are focused on extending Broadview Avenue southward into the Port Lands providing a critical, yet challenging, multi-modal transit connection to support regeneration and renewal. Lands to the north of the rail embankment will remain in the flood plain post construction of the new mouth of the Don. Achieving the extension and crossing the rail embankment requires that flood risk be addressed

ALTERNATIVES



EVALUATION OF ALTERNATIVES

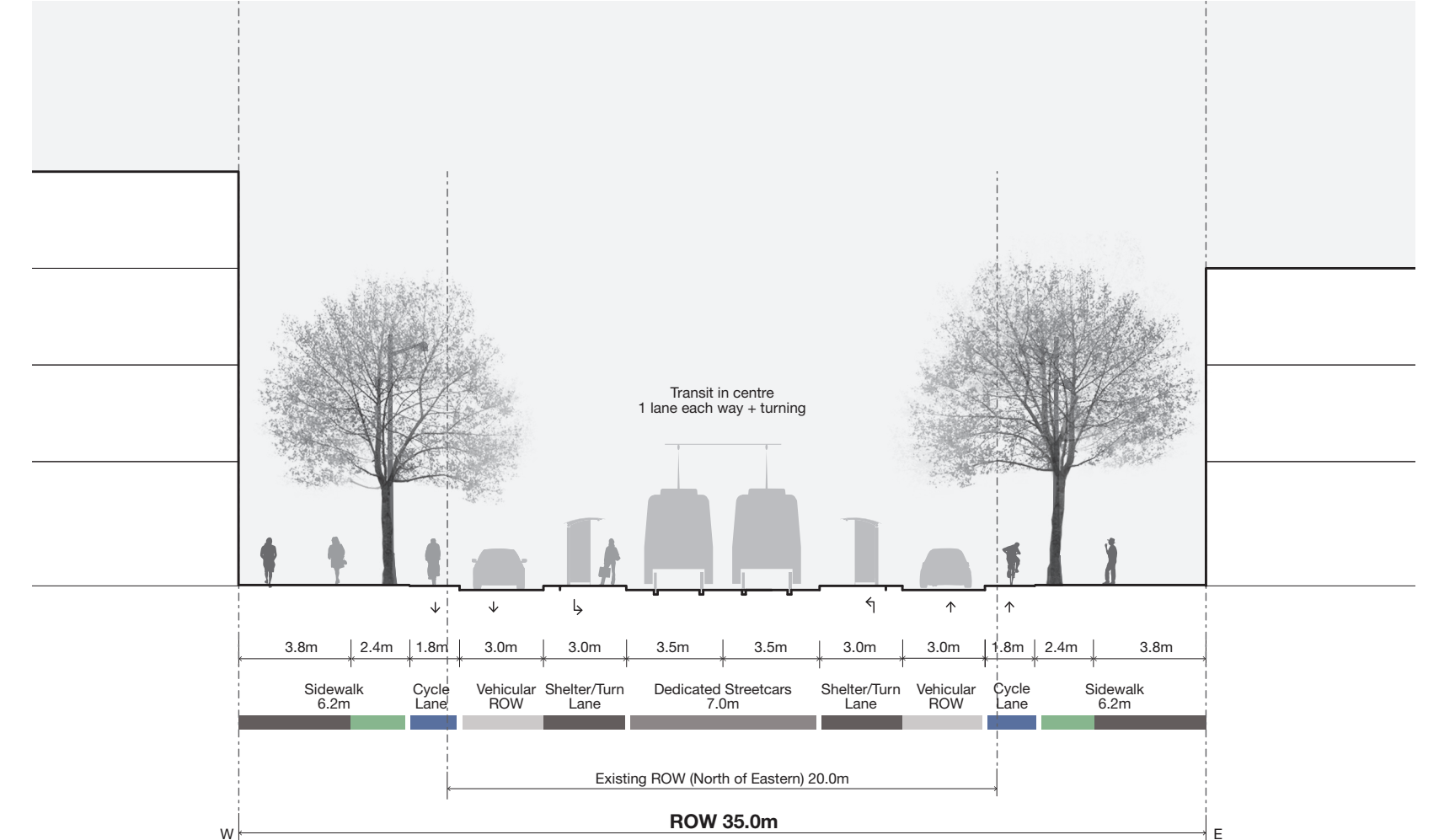
CRITERIA	1-A Don Roadway	1-B.1 Saultier	1-B.2 Realigned Saultier + New	1-C.1 Bouchette	1-D. Extend Btw Don Roadway + Saultier
CREATING AN DYNAMIC URBAN	●	●	●	●	●
Creation of new, vibrant mixed use communities and employment areas	●	●	●	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●	●	●
CONNECT THE PORT LANDS TO THE CITY	●	●	●	●	●
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●	●	●
Redundancy in the network for better access/service	●	●	●	●	●
Impacts to existing physical barriers	●	●	●	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●	●	●
LEVERAGE ASSETS	●	●	●	●	●
Cultural heritage resources	●	●	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●	●	●
Compatibility with the natural environment	●	●	●	●	●
Creation of visual connections	●	●	●	●	●
DEVELOP A HIGH QUALITY REALM	●	●	●	●	●
Achievement of the complete street principles + desired street character	●	●	●	●	●
Provision of safe, continuous and connected cycling routes	●	●	●	●	●
Place-making opportunities	●	●	●	●	●
Minimizes and/or improves health and safety issues	●	●	●	●	●
CONTRIBUTE TO THE URBAN FORM OF THE CITY	●	●	●	●	●
Opportunities for innovation	●	●	●	●	●
Transit accommodation	●	●	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●	●	●
Noise and air quality conditions	●	●	●	●	●
Climate change resiliency potential	●	●	●	●	●
IMPLEMENTATION	●	●	●	●	●
Compatibility with City, provincial planning policies + Waterfront Toronto Frameworks standards	●	●	●	●	●
Consistency with approved area Environmental Assessments	●	●	●	●	●
Engineering Feasibility and construction cost	●	●	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●	●	●
Property acquisition costs	●	●	●	●	●
Maintenance and operations implications	●	●	●	●	●
OVERALL PERFORMANCE	●	●	●	●	●

● VERY POOR ● POOR ● GOOD ● VERY GOOD

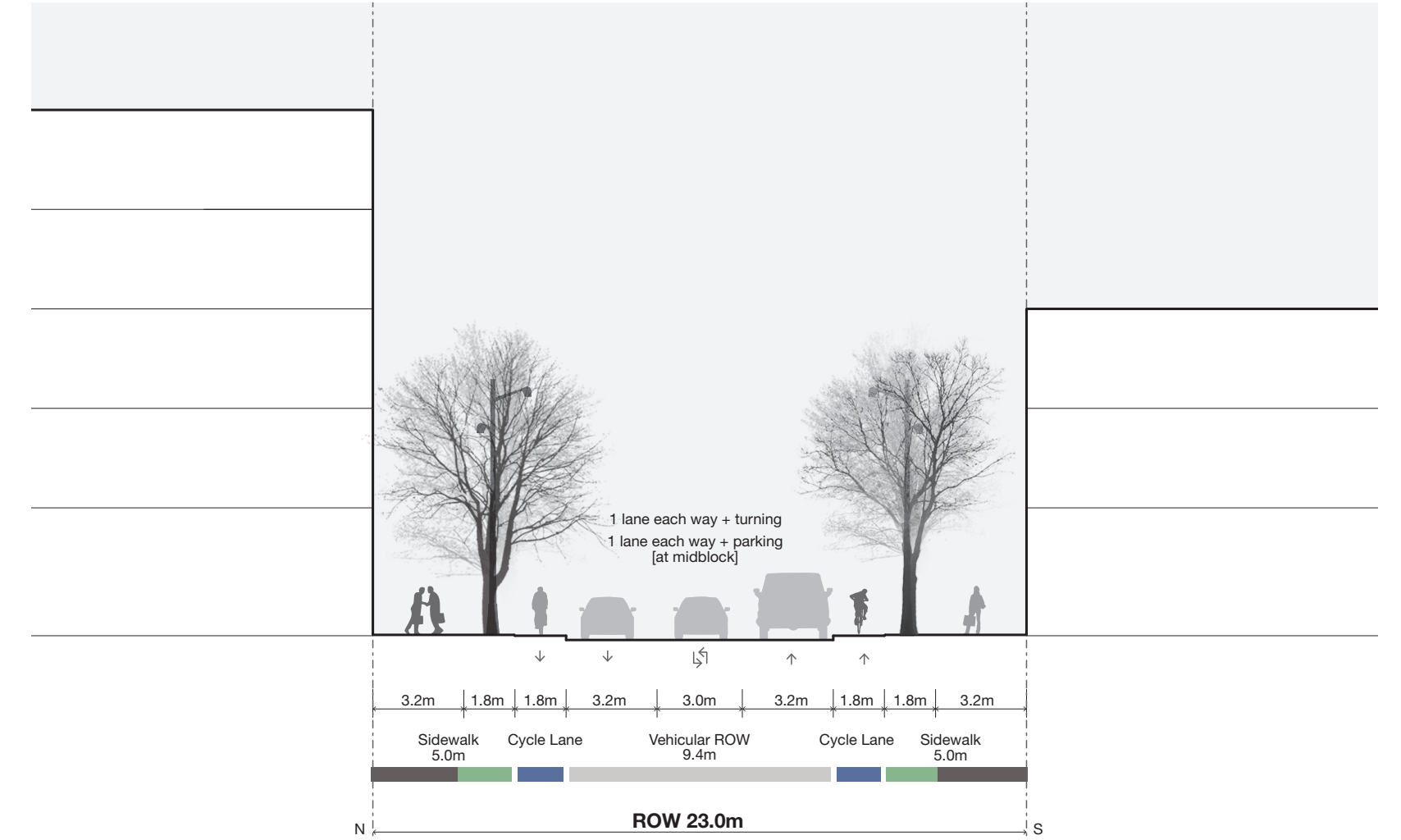
PREFERRED SOLUTION

Alternative 1-B2 (Realigned Saultier and New North-South Street) is the preferred solution. It creates a new city spine that is functional, thematic and symbolic in nature while removing barriers and reconnecting the waterfront with the city. The alternative divides larger sites into smaller development blocks and improves the visibility, access and prominence of unique human-made features, in particular by providing a new southbound view corridor to the Hearn. The new multi-modal streets greatly enhances the pedestrian and cycling environment of the area, minimizes pedestrian crossing distances and provides access to a number of key destinations. The alternative will support a vibrant, grade-related urban mix. Together, the streets meet the necessary vehicular capacity and maintain inter-regional transportation connections. Impacts are minimized to private property north of the rail embankment and supports the intensification assumed within the Unilever Precinct and Port Lands for the purposes of the EA. Identified technical challenges can be addressed. Costs are higher and requires relocating the Basin Transmission Station to achieve the full extension.

PREFERRED BROADVIEW EXTENSION CROSS SECTION

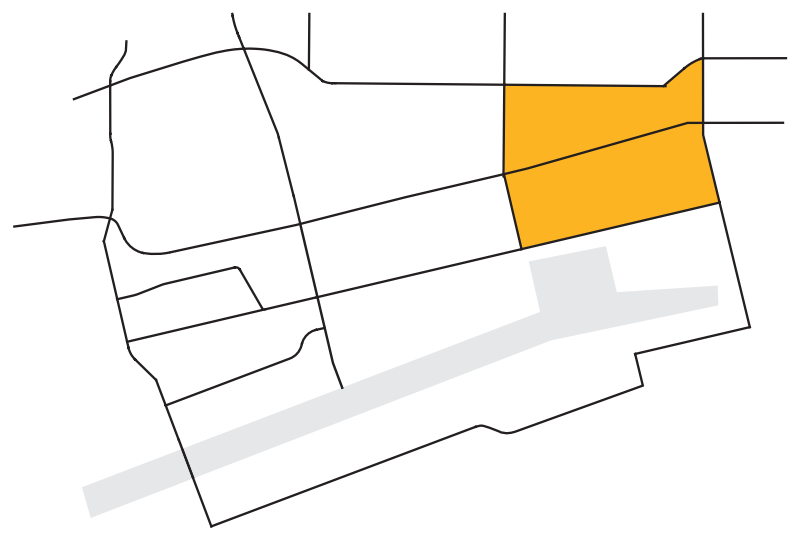


NEW NORTH-SOUTH STREET CROSS SECTION



PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

SUB AREA 2: NORTH-SOUTH CONNECTIONS BETWEEN CARLAW AND LESLIE



The alternatives explored in Sub Area 2 are focused on providing new multi-modal mid-block connection(s) and new street frontages between Carlaw and Leslie to support new and existing employment uses and provide additional north-south capacity between Eastern and Commissioners. There are stable residential neighbourhoods north of Eastern and an important aspect of this analysis is to ensure that traffic infiltration through is able to be mitigated.

ALTERNATIVES

DO NOTHING	2-A. WINNIFRED*	2-B. CAROLINE*	2-C. LARCHMOUNT*
No new north-south connection is provided between Carlaw Avenue and Leslie Street	Create a two-way multi-modal connection between Eastern Avenue to Commissioners Street at Winnifred Avenue with one vehicular lane in each direction (23m ROW)	Create a two-way multi-modal connection between Eastern Avenue to Commissioners Street at Caroline Avenue with one vehicular lane in each direction (23m ROW)	Create a two-way multi-modal connection between Eastern Avenue to Commissioners Street at Larchmount Avenue with one vehicular lane in each direction (23m ROW)
2-D.1 ONE-WAY PAIR (CAROLINE + LARCHMOUNT)	2-D.2 ONE-WAY PAIR (CAROLINE + WINNIFRED)	2-E. PAPE*	
Create a one-way multi-modal northbound connection at Caroline Avenue (16.5m ROW) and one-way multi-modal southbound connection at Larchmount Avenue (16.5m ROW) between Eastern Avenue to Commissioners Street (contra flow to existing)	Create a one-way multi-modal northbound connection at Caroline Avenue (16.5m ROW) and one-way multi-modal southbound connection at Winnifred Avenue (16.5m ROW) between Eastern Avenue to Commissioners Street (contra flow to existing)	Create a two-way multi-modal extension of Pape Street between Eastern Avenue to Commissioners Street with one vehicular lane in each direction (23m ROW)	

- Alternative
- Conceptual Local Street
- Heritage Building/Structure
- Cultural Heritage Landscape
- Parks and Open Spaces
- Water's Edge Promenades
- Hydro Infrastructure
- Buildings with Redevelopment Potential
- Building to Remain
- Existing Residential
- Community Infrastructure

EVALUATION OF ALTERNATIVES

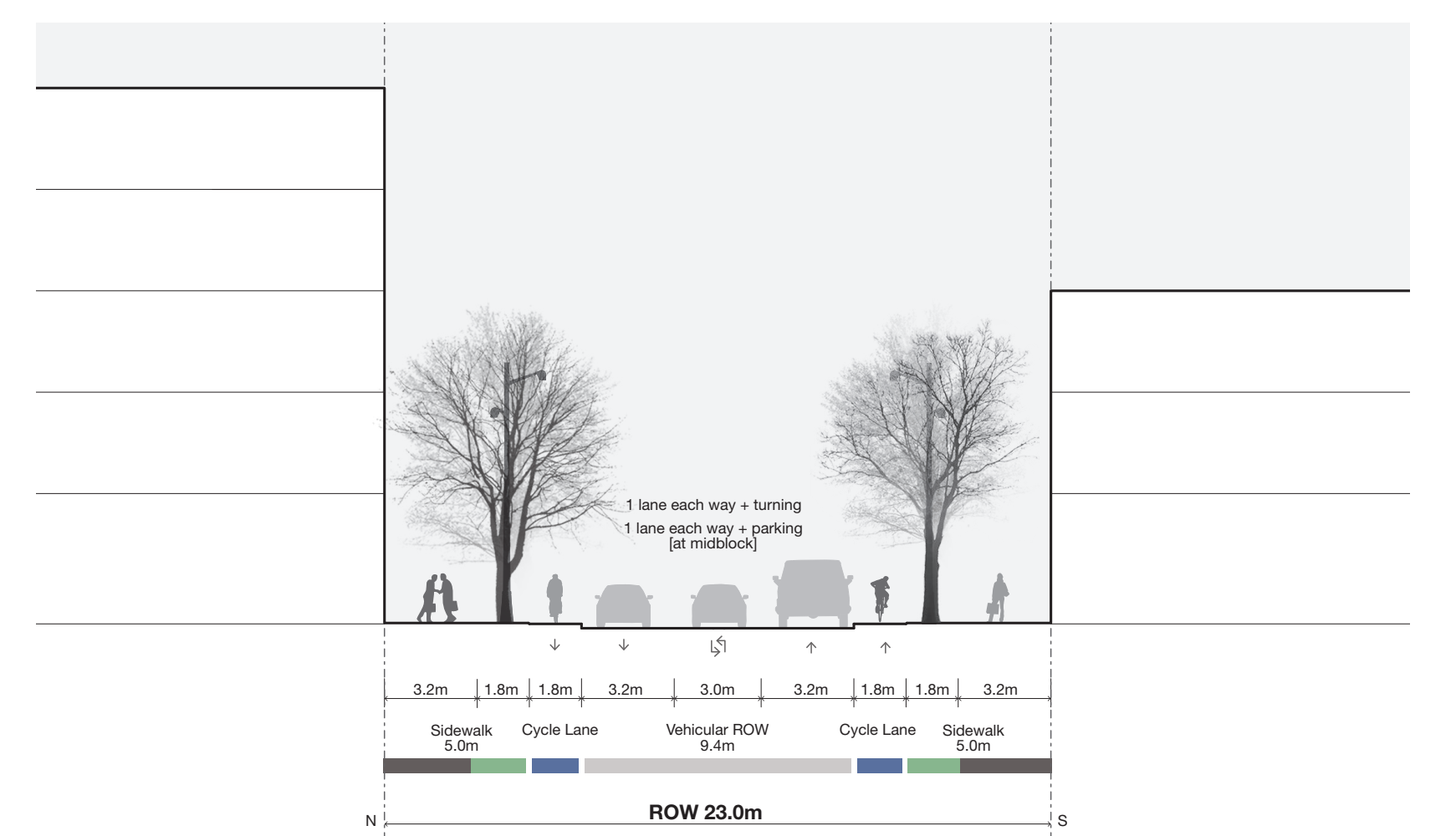
CRITERIA	2-A. Winnifred*	2-B. Caroline*	2-C. Larchmount*	2-D.1 One-Way Pair (Caroline + Larchmount)	2-D.2 One-Way Pair (Caroline + Winnifred)	2-E. Pape*
CREATING AN DYNAMIC URBAN MIX	●	●	●	●	●	●
CONNECT THE PORT LANDS TO THE CITY	●	●	●	●	●	●
LEVERAGE ASSETS	●	●	●	●	●	●
DEVELOP A HIGH QUALITY PUBLIC REALM	●	●	●	●	●	●
CONTRIBUTE TO THE SUSTAINABLE CITY	●	●	●	●	●	●
IMPLEMENTATION	●	●	●	●	●	●
OVERALL PERFORMANCE	●	●	●	●	●	●

● VERY POOR ● POOR ● GOOD ● VERY GOOD

PREFERRED SOLUTION

Alternative 2-B (Caroline Extension*) is the preferred solution. The alternative provides optimal spacing between Carlaw Avenue and Leslie Street, better connecting the Port Lands to the rest of the city. It has the least impact on private property and development that is anticipated to remain in the area. This street alternative also has limited impact on cultural heritage resources and breaks up larger blocks and supports the growth intentions of the City's Official Plan by creating viable employment blocks and supporting continued employment growth in South of Eastern and the Port Lands. Connections are made that improve walkability and cycling to destinations as well as connecting to the broader cycling network. This street alternative terminates at the Turning Basin and creates a visual connection to this important feature. The management of traffic infiltration in adjacent stable residential areas is possible through the implementation traffic calming measures.

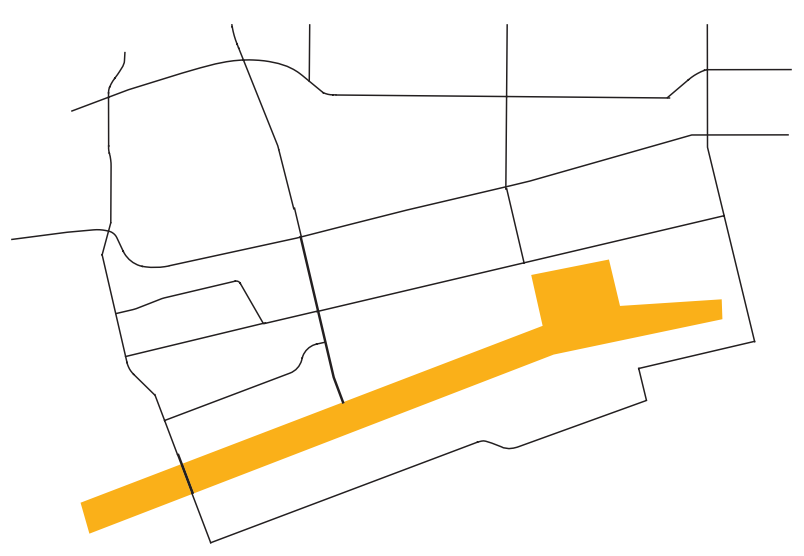
NEW NORTH-SOUTH STREET CONCEPTUAL CROSS SECTION



* The name of the new street would be determined through a public process in the future

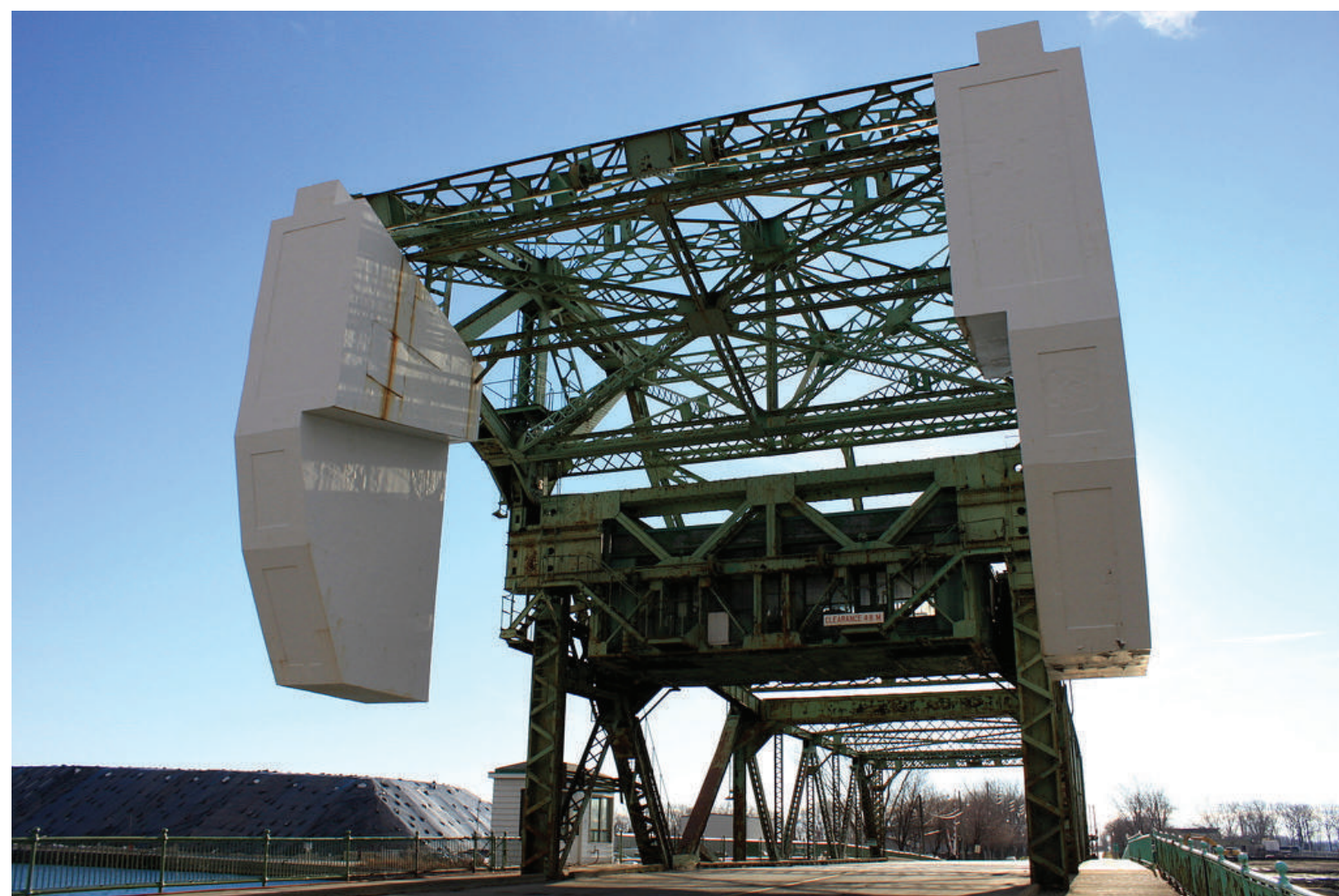
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SUB AREA 3: SHIP CHANNEL



The alternatives explored in Sub Area 3 are focused on providing additional capacity/connections across the Ship Channel. New bridges explored would protect for future streetcar in a dedicated right-of-way. It is essential to maintain the Ship Channel for vessel navigation by ensuring a sufficient navigational span, and for new bridges to lift to allow vessel passage. In addition, optimal spacing of approximately 450m between bridges is necessary to enable safe passage. Consideration was also given to the bridge approaches to support a water's edge promenade as well as to identify other possible infrastructure constraints such as the Basin Street Extension.

STRAUSS TRUNNION BASCULE BRIDGE



EVALUATION OF ALTERNATIVES

CRITERIA SUB AREA 3	3-A. Widen Cherry	3-B. Don Roadway	3-C. Broadview	3-D. Widen Leslie	
CREATING AN INTERESTING + DYNAMIC URBAN MIX	Creation of new, vibrant mixed use communities and employment areas	●	●	●	●
	Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●	●
	Impacts and opportunities for existing/planned neighbourhoods	●	●	●	●
	Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●	●
CONNECT THE PORT LANDS TO THE CITY	Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●	●
	Redundancy in the network for better access/service	●	●	●	●
	Impacts to existing physical barriers	●	●	●	●
	Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●	●
LEVERAGE ASSETS	Cultural heritage resources	●	●	●	●
	Archaeological resources + traditional uses of Aboriginal people	●	●	●	●
	Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●	●
	Compatibility with the natural environment	●	●	●	●
	Creation of visual connections	●	●	●	●
DEVELOP A HIGH QUALITY PUBLIC REALM	Achievement of the complete street principles + desired street character	●	●	●	●
	Provision of safe, continuous and connected cycling routes	●	●	●	●
	Place-making opportunities	●	●	●	●
	Minimizes and/or improves health and safety issues	●	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY	Opportunities for innovation	●	●	●	●
	Transit accommodation	●	●	●	●
	Creation of flood risk potential and mitigation potential	N/A	N/A	N/A	N/A
	Noise and air quality conditions	●	●	●	●
	Climate change resiliency potential	●	●	●	●
IMPLEMENTATION	Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●	●
	Consistency with approved area Environmental Assessments	●	●	●	●
	Engineering Feasibility and construction cost	●	●	●	●
	Impacts on existing municipal infrastructure and utilities	●	●	●	●
	Property acquisition costs	●	●	●	●
	Maintenance and operations implications	●	●	●	●
OVERALL PERFORMANCE	●	●	●	●	

● VERY POOR ● POOR ● GOOD ● VERY GOOD

PREFERRED SOLUTION

Alternative 3-C (Broadview) is the preferred solution. The alternative increases access and permeability to and across the Ship Channel for all modes. The alternative maintains large tracts of contiguous land south of Ship Channel to support port and employment uses. There is excellent spacing between the existing lift-bridge at Cherry Street for vessel movement through the Ship Channel, and good potential to protect for additional future connections. The connection is centrally located within the study area, providing better spacing and access to recreational amenity. Coupled with an extension of Broadview north of the Ship Channel, the alternative creates a new city-spine that better connects the waterfront with the city. An even distribution of streets is achievable with an optimally spaced bridge centrally within the area. The connection would provide access and frontage for the Hearn, including the opportunity to create a suitably-scaled forecourt to the building which could be used for public gatherings. The alternative achieves the necessary vehicular capacity and supports multi-modal functions across the Ship Channel.

ALTERNATIVES

3-A. WIDEN CHERRY



3-B. DON ROADWAY



Widen Cherry Street from the planned condition in the Lower Don Lands EA south of the new river valley to Unwin Avenue to provide a four-lane (two-lanes in each direction) multi-modal street and crossing (35m ROW).

Create a new two-lane (one lane in each direction) multi-modal street and crossing across the Ship Channel with provision for future transit at the Don Roadway to Unwin Avenue (28-30m ROW).

3-C. BROADVIEW

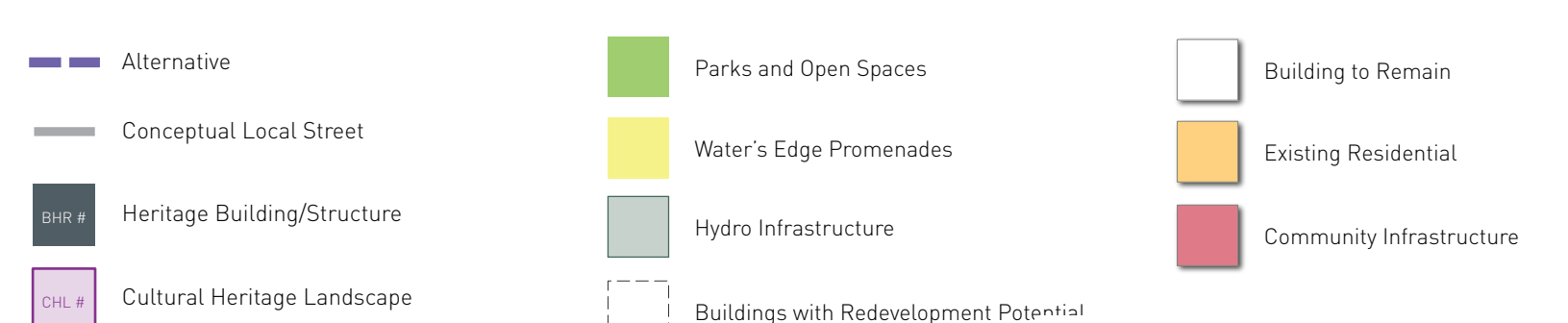


Create a new two-lane (one lane in each direction) multi-modal crossing across the Ship Channel with provision for future transit in the vicinity of existing Bouchette Street (28-30m ROW).

3-D. WIDEN LESLIE

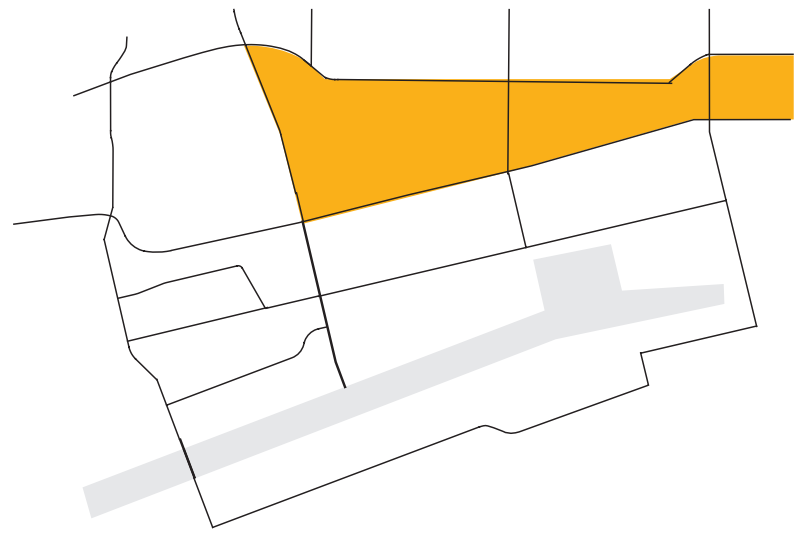


Provide two additional vehicular travel lanes in the existing right-of-way for a total of four vehicular lanes and maintain multi-modal access (26m ROW south of Commissioners).



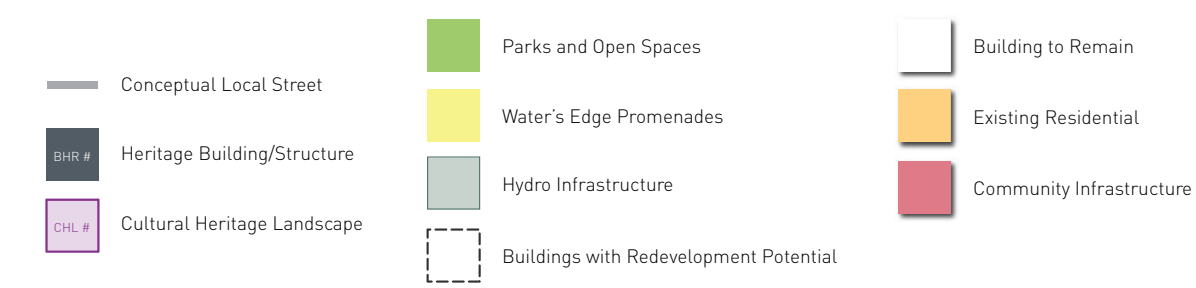
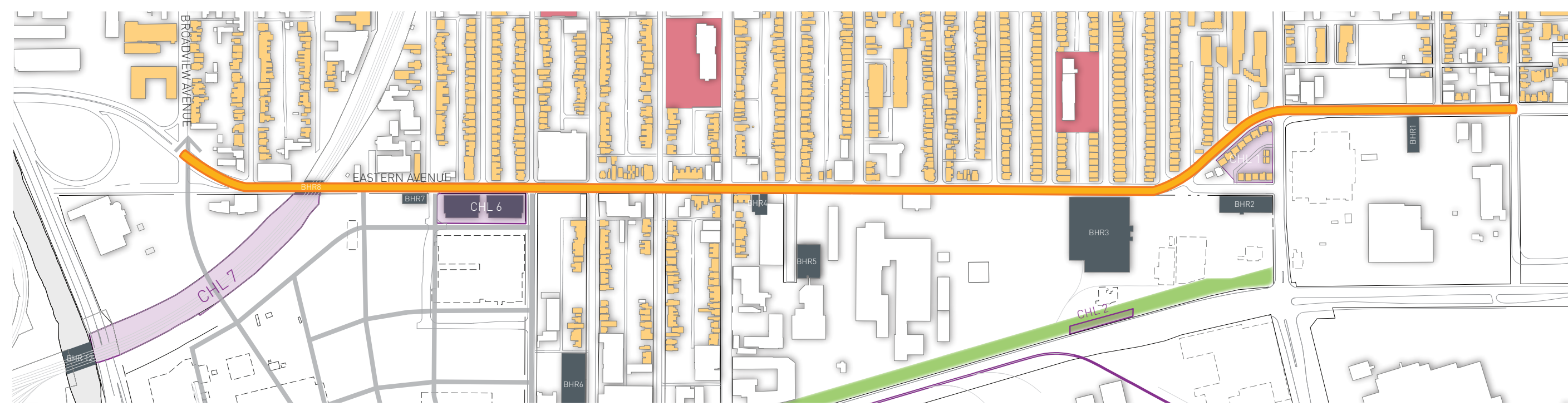
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SUB AREA 4: EASTERN AVENUE

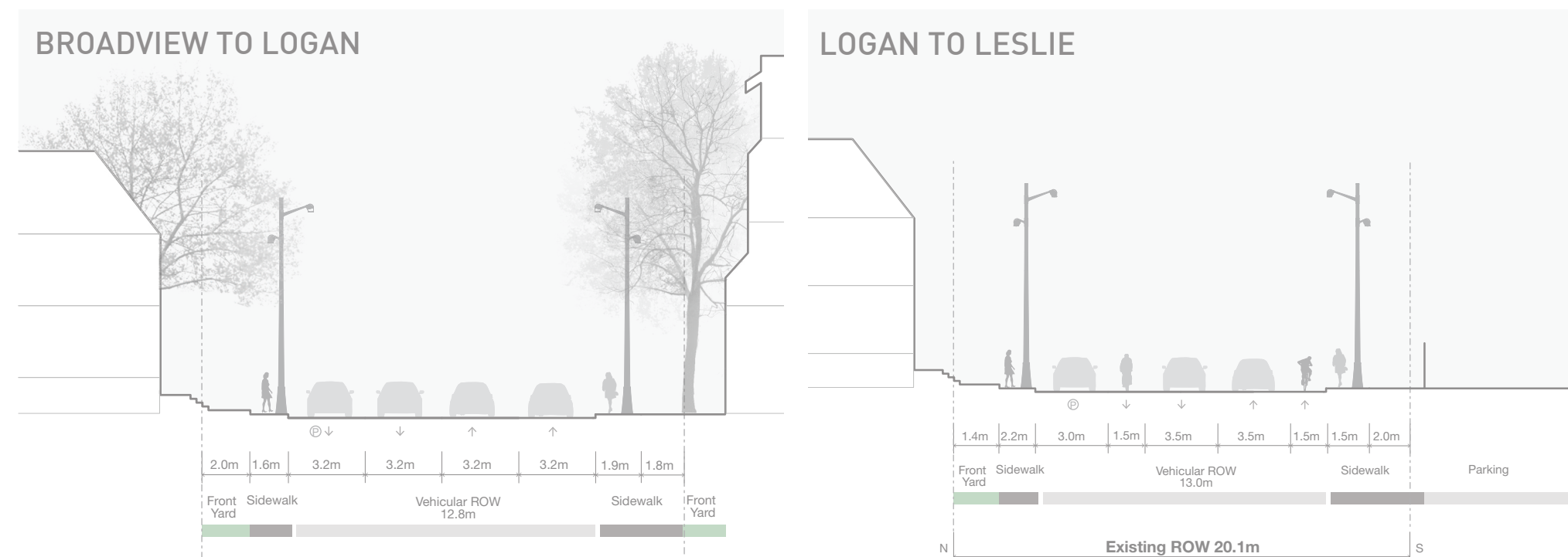


Eastern Avenue is an existing urban street with an inconsistent treatment from Broadview to Knox. The street has narrow sidewalks, and on-street cycling facilities between Logan and Leslie. The street has stable residential neighbourhoods to the north and in some areas to the south, as well as a well established employment area. In many locations, existing buildings, including heritage buildings, are located in close proximity to the property boundary. The alternatives explored in Sub-Area 4 are focused on providing a consistent multi-modal street for the length of Eastern from Broadview to Knox.

ALTERNATIVES



4-A.1 DO NOTHING



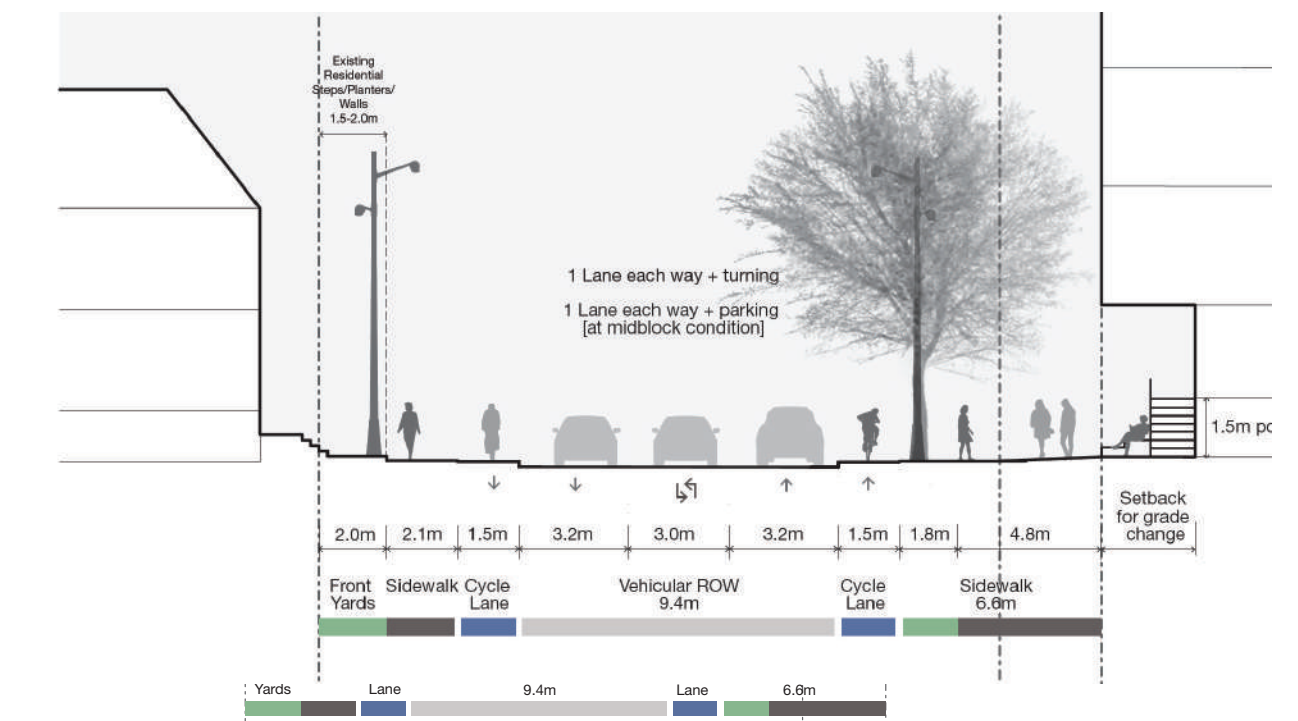
Maintain Eastern Avenue in its current configuration with two vehicular lanes in each direction from Broadview to Logan and one vehicular lane in each direction with on-street cycling from Logan to Leslie

4-A.2 CONSISTENTLY PROVIDE FOUR VEHICULAR LANES



Provide four vehicular lanes consistently through the study area (two lanes in each direction), remove on-street cycling lanes between Logan and Leslie, and generally maintain current pedestrian clearways. Enhancements to pedestrian/cyclist amenity is achieved through a right-of-way widening as properties redevelop.

4-A.3 URBANIZE



Create a multi-modal street by providing two vehicular lanes consistently through the study area (one lane in each direction), optimize performance and enhance pedestrian/cyclist amenity. Further enhancements to pedestrian/cyclist amenity is achieved through a right-of-way widening as properties redevelop.

EVALUATION OF ALTERNATIVES

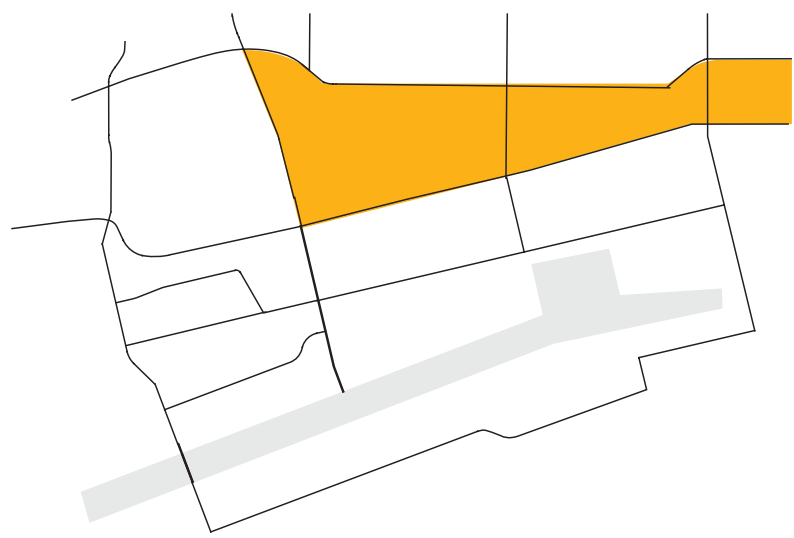
CRITERIA	4-A1 Do Nothing	4-A.2 Consistent Four Lanes	4-A3 Urbanize
CREATING AN DYNAMIC URBAN MIX			
Creation of new, vibrant mixed use communities and employment areas	●	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●
CONNECT THE PORT LANDS TO THE CITY			
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●
Redundancy in the network for better access/service	●	●	●
Impacts to existing physical barriers	●	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●
LEVERAGE ASSETS			
Cultural heritage resources	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●
Compatibility with the natural environment	●	●	●
Creation of visual connections	●	●	●
DEVELOP A HIGH QUALITY PUBLIC realm			
Achievement of the complete street principles + desired street character	●	●	●
Provision of safe, continuous and connected cycling routes	●	●	●
Place-making opportunities	●	●	●
Minimizes and/or improves health and safety issues	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY			
Opportunities for innovation	●	●	●
Transit accommodation	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●
Noise and air quality conditions	●	●	●
Climate change resiliency potential	●	●	●
IMPLEMENTATION			
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●
Consistency with approved area Environmental Assessments	●	●	●
Engineering Feasibility and construction cost	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●
Property acquisition costs	●	●	●
Maintenance and operations implications	●	●	●
OVERALL PERFORMANCE	●	●	●

PREFERRED SOLUTION

Alternative 4-A.3 (Urbanize Eastern) is the preferred solution. It supports mix of uses and enhances access and permeability to and through the area for all modes. It establishes a greatly enhanced and consistent cycling and pedestrian environment, with the potential for further expansion as properties redevelop. The Urbanize alternative provides potential to contribute to a vibrant, grade-related urban mix and supports continued employment growth in the South of Eastern area with improved amenities for area workers and businesses. Improved vehicle and multi-modal capacity is achieved with operational optimization and identified technical challenges can be addressed.

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

SUB AREA 4: MIDBLOCK CONNECTIONS



The alternatives explored in Sub Area 4 Mid Block Connections are focused on providing a new multi-modal east-west connection to support development in the Unilever Precinct. A valley wall feature is required to the east of the Don Roadway as part of the DMNP EA. The new mid-block connector will need to cross this feature while maintaining flood control integrity. Functional spacing to Lake Shore and configuration of existing ramps to/from the DVP are also complex. The final alignment will be confirmed in Phase 3 of the Municipal Class EA process.

ALTERNATIVES

4-B.1 DO NOTHING

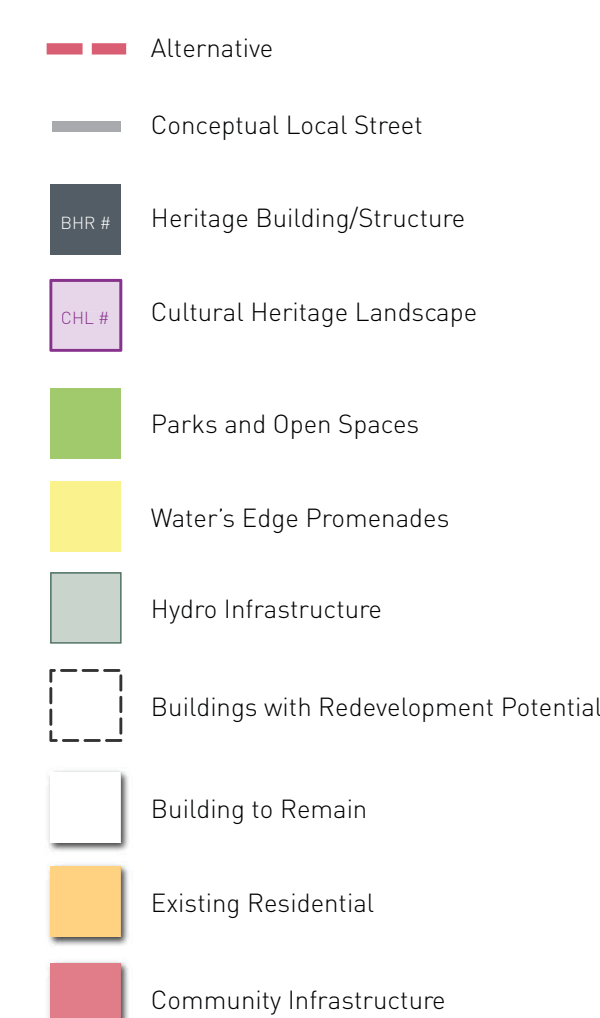


No connecting collector street is provided through the Sub Area.

4-B.2 NEW EAST-WEST CONNECTION IN UNILEVER PRECINCT



Provide a new east-west multi-modal collector street (23m ROW) through the Unilever Precinct with two-lanes of vehicular capacity (one lane in each direction). The alignment of the east-west street would be confirmed in Phase 3 (Alternative Designs) of the Municipal Class EA process.



EVALUATION OF ALTERNATIVES

CRITERIA	4-B.1 Do Nothing	4-B.2 New East-West in Unilever Precinct
CREATING AN INTERESTING + DYNAMIC URBAN AREA		
Creation of new, vibrant mixed use communities and employment areas	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●
CONNECT THE PORT LANDS TO THE CITY		
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●
Redundancy in the network for better access/service	●	●
Impacts to existing physical barriers	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●
LEVERAGE ASSETS		
Cultural heritage resources	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●
Compatibility with the natural environment	●	●
Creation of visual connections	●	●
DEVELOP A HIGH QUALITY PUBLIC REALM		
Achievement of the complete street principles + desired street character	●	●
Provision of safe, continuous and connected cycling routes	●	●
Place-making opportunities	●	●
Minimizes and/or improves health and safety issues	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY		
Opportunities for innovation	●	●
Transit accommodation	●	●
Creation of flood risk potential and mitigation potential	●	●
Noise and air quality conditions	●	●
Climate change resiliency potential	●	●
IMPLEMENTATION		
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●
Consistency with approved area Environmental Assessments	●	●
Engineering Feasibility and construction cost	●	●
Impacts on existing municipal infrastructure and utilities	●	●
Property acquisition costs	●	●
Maintenance and operations implications	●	●
OVERALL PERFORMANCE	●	●

● Very Poor ● Poor ● Good ● Very Good

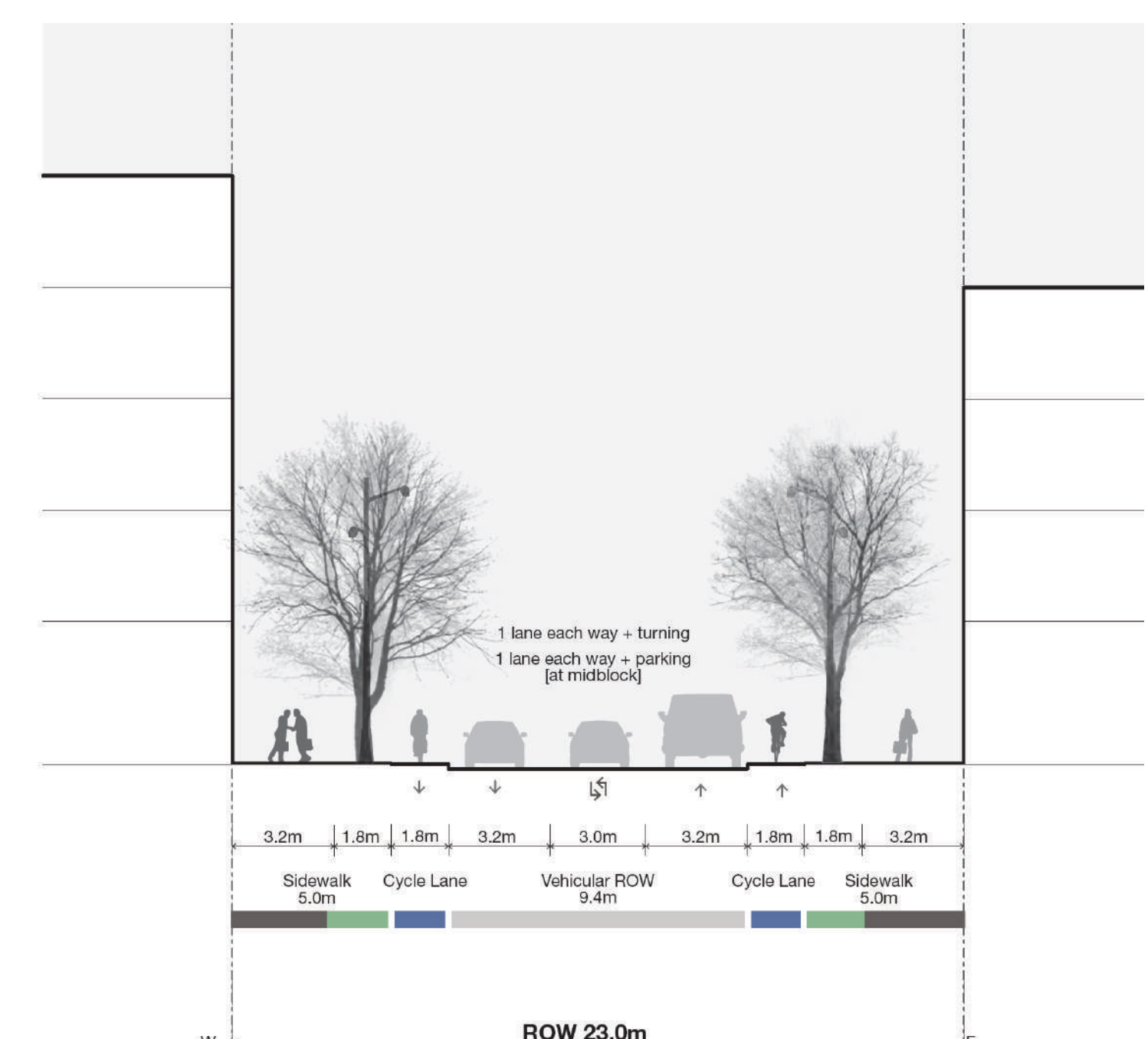
PREFERRED SOLUTION

Alternative 4-B.2 (New East West Street) is the preferred alternative. The alternative supports a mix of uses, provides much needed vehicular capacity that will assist in providing relief to Lake Shore, and enhances the pedestrian and cycling experience by providing multi-modal access in and through the area. Active and animated street frontages can be created to support a vibrant public realm with limited interruptions for servicing and access. The alternative breaks up the large area, enabling the ability to achieve a fine grained network of streets.

New connections will require resolving grade changes associated with the flood protection requirements of the Don Mouth Naturalization and Port Lands Flood Protection Environmental Assessment (DMNP EA).

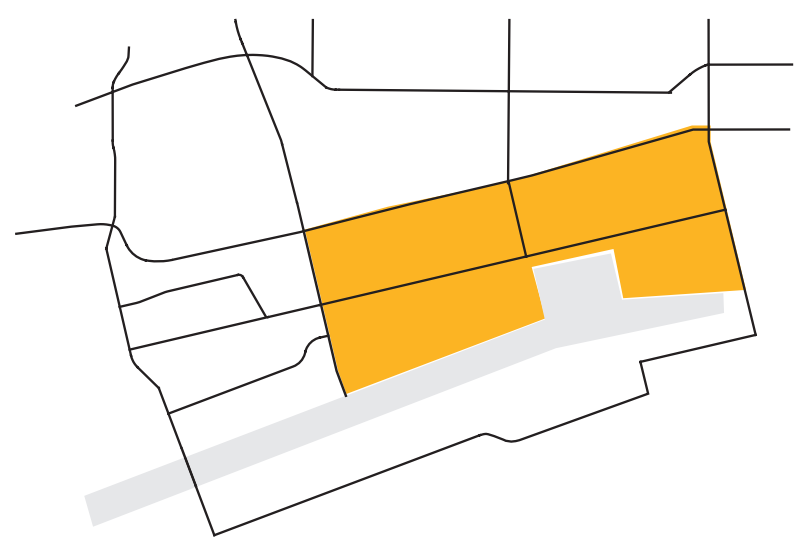
This street provides an opportunity to terminate at a potential plaza to frame a heritage resource at the booth, as well as a view of the Don River to the west.

CONCEPTUAL CROSS SECTION



PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

SUB AREA 5: EAST-WEST CONNECTIONS BETWEEN LAKE SHORE + THE SHIP CHANNEL



Commissioners Street is currently two vehicular lanes in each direction, with discontinuous sidewalks and no cycling facilities. Basin Street and Villiers Street are discontinuous local east-west streets in the area. Additional capacity and connectivity is required as well as accommodating a streetcar in a dedicated right-of-way to support regeneration and renewal. The alternatives explored provide different approaches for addressing the key problems in the sub area.

ALTERNATIVES

5-A. NEW EAST-WEST	5-B.1 URBANIZE COMMISSIONERS	5-B.2 MAINTAIN + ENHANCE
<p>Create a new east-west, multi-modal street through the Film Studio District north of Commissioners Street with one vehicular lane in each direction and Maintain + Enhance Commissioners Street (5-B.2).</p>	<p>Create a multi-modal corridor with one vehicular travel lane in each direction, transit in a dedicated right-of-way, enhanced pedestrian amenity, separated cycling facilities and a wide integrated stormwater management/landscaped median (maximum 42m ROW)</p>	<p>Maintain two vehicular travel lanes in each direction, introduce transit in a dedicated right-of-way, enhanced pedestrian amenity, separated two-way cycle track with an integrated stormwater feature (maximum 42m ROW)</p>
5-C.1 EXTENDED BASIN	5-C.2 REALIGNED AND EXTENDED BASIN	5-D. MULTIPLE CONNECTIONS
<p>Extend Basin Street westward to the Don Roadway and connect to Carlaw Avenue with one vehicular lane in each direction and pedestrian and cyclist amenity, and Maintain + Enhance Commissioners Street (5-B.2).</p>	<p>Realign Basin Street south of Pinewood Toronto Studios and create a multi-modal corridor with one vehicular travel in each direction and pedestrian and cyclist amenity, and Maintain + Enhance Commissioners Street (5-B.2).</p>	<p>Provide multiple multi-modal connections consisting of an Urbanized Commissioners Street (5-B.1) with a Realigned and Extended Basin Street (5-C.2) and New East-West Street north of Commissioners Street (5-A.).</p>

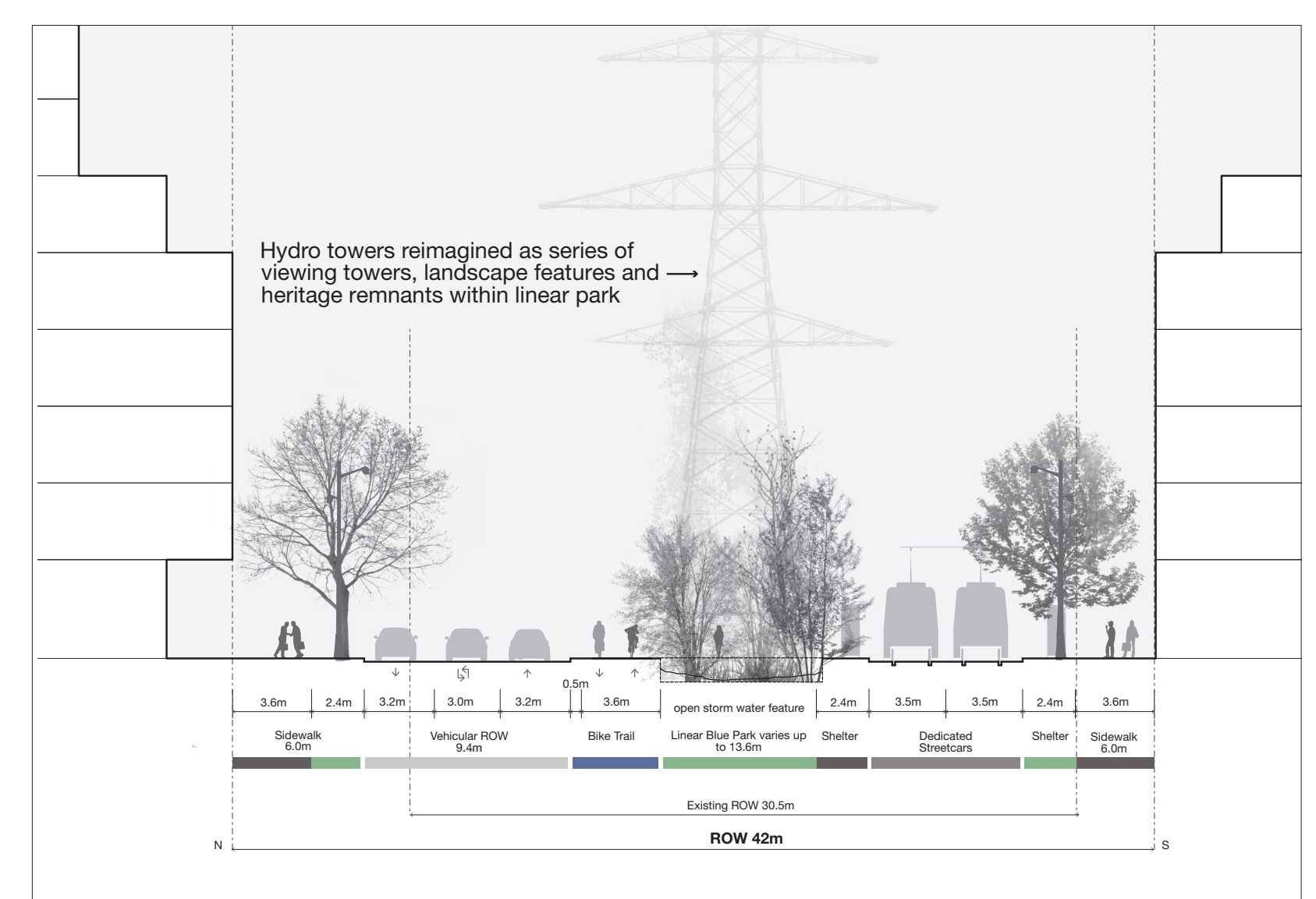
EVALUATION OF ALTERNATIVES

CRITERIA SUB AREA 5	5-A. New East-West	5-B.1 Urbanize Commissioners	5-B.2 Maintain + Enhance Commissioners	5-C.1 Extend Basin Street	5-C.2 Realigned + Extended Basin	5-D. Multiple Connections
CREATING AN URBAN MIX						
Creation of new, vibrant mixed use communities and employment areas	●	●	●	●	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●	●	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●	●	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●	●	●	●
CONNECT THE PORT LANDS TO THE CITY						
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●	●	●	●
Redundancy in the network for better access/service	●	●	●	●	●	●
Impacts to existing physical barriers	●	●	●	●	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●	●	●	●
LEVERAGE ASSETS						
Cultural heritage resources	●	●	●	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●	●	●	●
Compatibility with the natural environment	●	●	●	●	●	●
Creation of visual connections	●	●	●	●	●	●
DEVELOP A HIGH QUALITY URBAN REALM						
Achievement of the complete street principles + desired street character	●	●	●	●	●	●
Provision of safe, continuous and connected cycling routes	●	●	●	●	●	●
Place-making opportunities	●	●	●	●	●	●
Minimizes and/or improves health and safety issues	●	●	●	●	●	●
CONTRIBUTE TO THE SUSTAINABILITY OF THE CITY						
Opportunities for innovation	●	●	●	●	●	●
Transit accommodation	●	●	●	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●	●	●	●
Noise and air quality conditions	●	●	●	●	●	●
Climate change resiliency potential	●	●	●	●	●	●
IMPLEMENTATION						
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●	●	●	●
Consistency with approved area Environmental Assessments	●	●	●	●	●	●
Engineering Feasibility and construction cost	●	●	●	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●	●	●	●
Property acquisition costs	●	●	●	●	●	●
Maintenance and operations implications	●	●	●	●	●	●
OVERALL PERFORMANCE	●	●	●	●	●	●

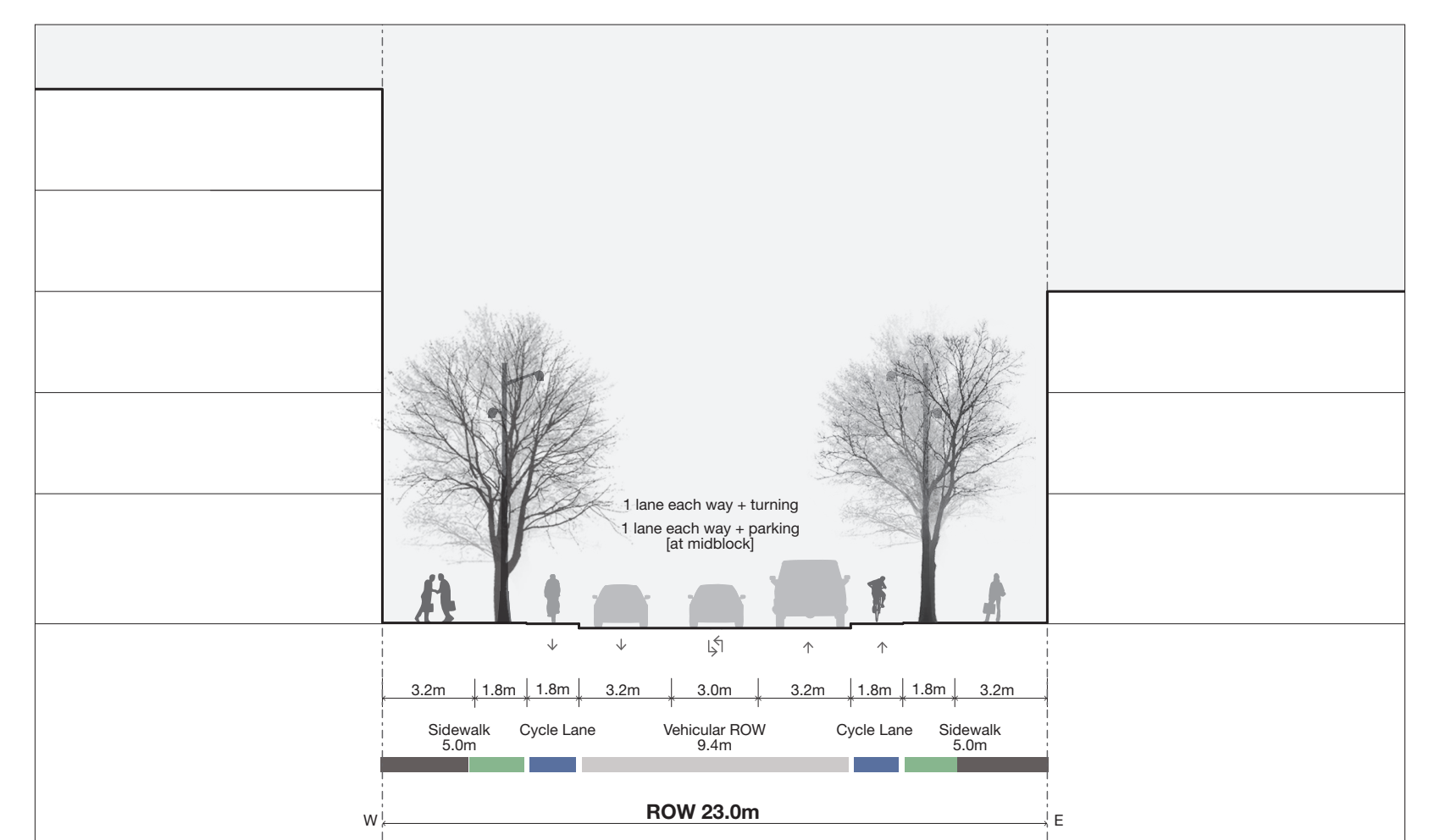
PREFERRED SOLUTION

Alternative 5-D. – Multiple Connections – is preferred. Multiple new streets provide for varied size and configuration of blocks and provide opportunities for a vibrant urban mix that promotes a diversity of uses and achieves the necessary lanes of vehicular capacity in each direction. The multiple connections support a mix of uses and an enhanced transit, pedestrian and cycling environment on Commissioners St. and in connection to the Don River Recreation Trail. An urbanized main street with the potential for urban frontages offers the potential for six new urban frontages to support a vibrant, grade-related urban mix and provides varying relationships with the Ship Channel and water's edge. Access is provided to the film studio district. It provides multiple opportunities for place-making including access to McCleary Park, celebration of heritage connections, views and integration of decommissioned hydro towers that can be a component of stormwater management design in the street. The new mixed street also showcases a future Commissioners Community Hub as part of a new community open space and integrates the Turning Basin and heritage dock wall as part of a proposed blue square. There are higher costs associated with a multiple street alternative including relocation of the transformer station.

CONCEPTUAL COMMISSIONERS CROSS SECTION

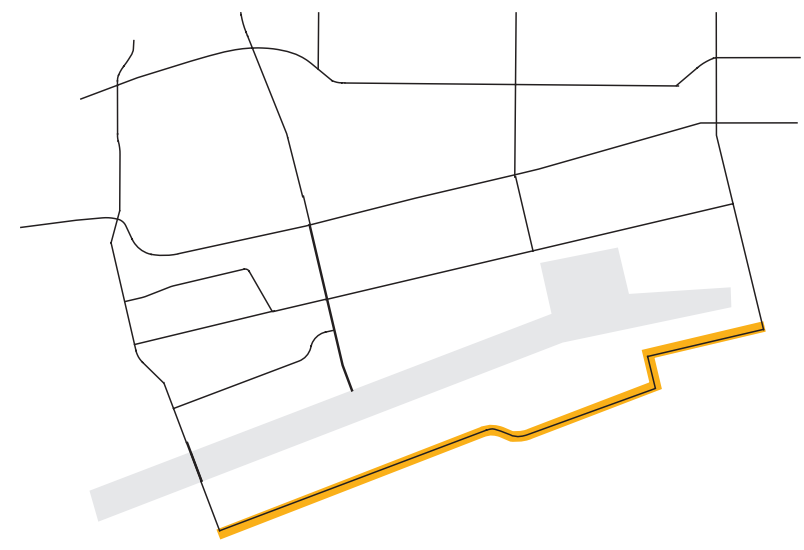


NEW EAST-WEST STREET CONCEPTUAL CROSS SECTIONS



PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

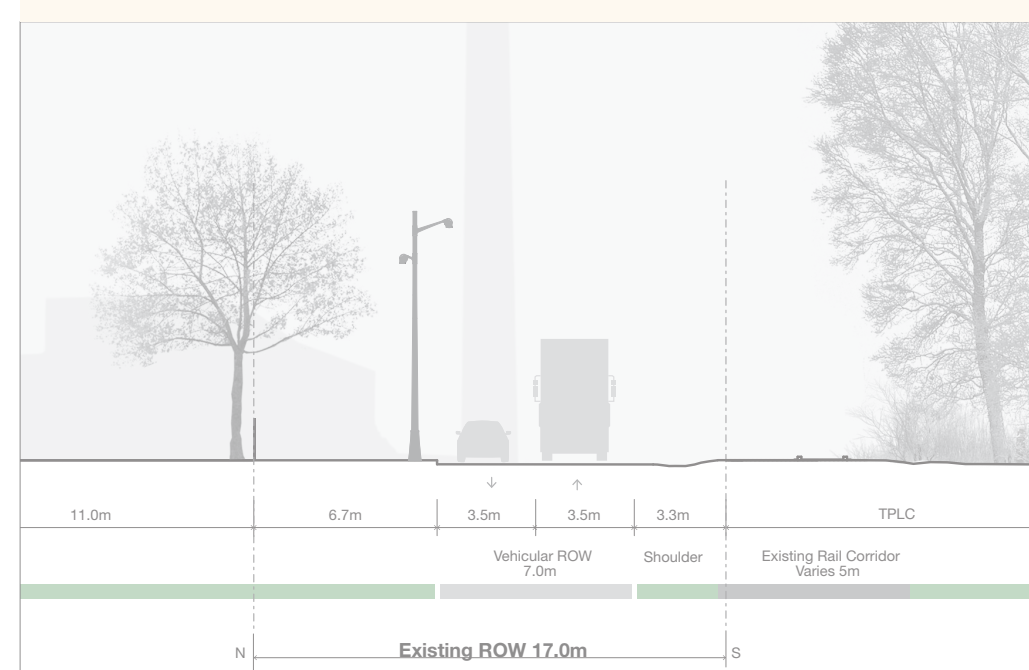
SUB AREA 6: UNWIN AVENUE



Unwin Avenue is currently under-serviced with several tight curves and no active transportation amenities. The street provides access to a potential destination at the Hearn as well as the active industries that flank the Ship Channel. The street is constrained by a single lane bailey bridge near the Port Lands Energy Centre (PEC) and there are significant natural heritage features and parks along much of the south side of the street. There are opportunities for increasing the net natural area protected through a renewed alignment as well as to support multi-modal uses. Truck use is also important on Unwin and needs to be accommodated.

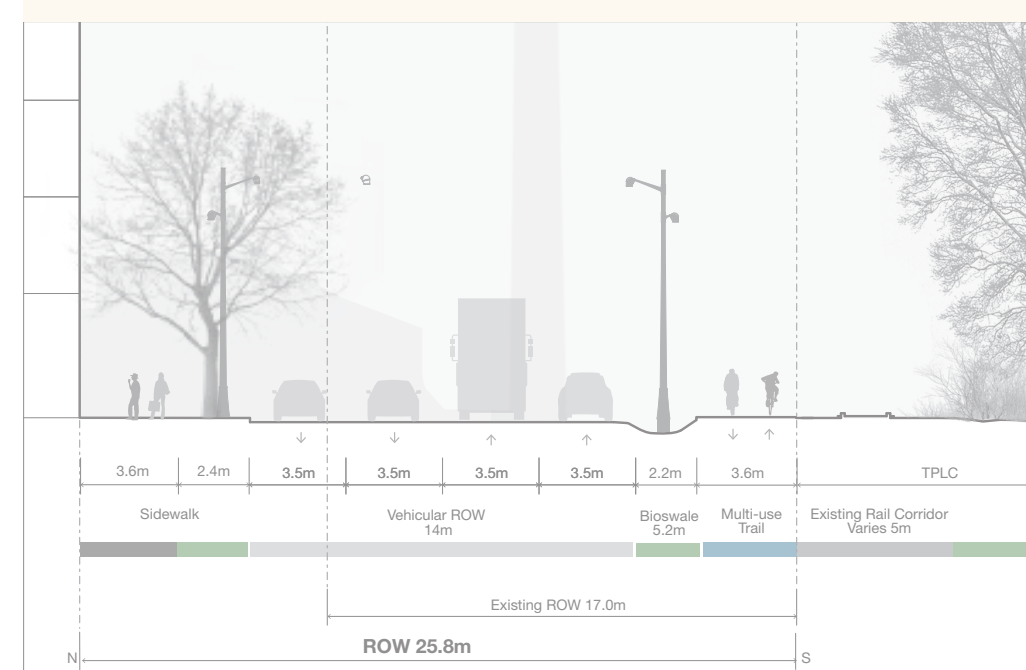
ALTERNATIVES

6-A. MAINTAIN WITH AN IMPROVED BAILEY BRIDGE



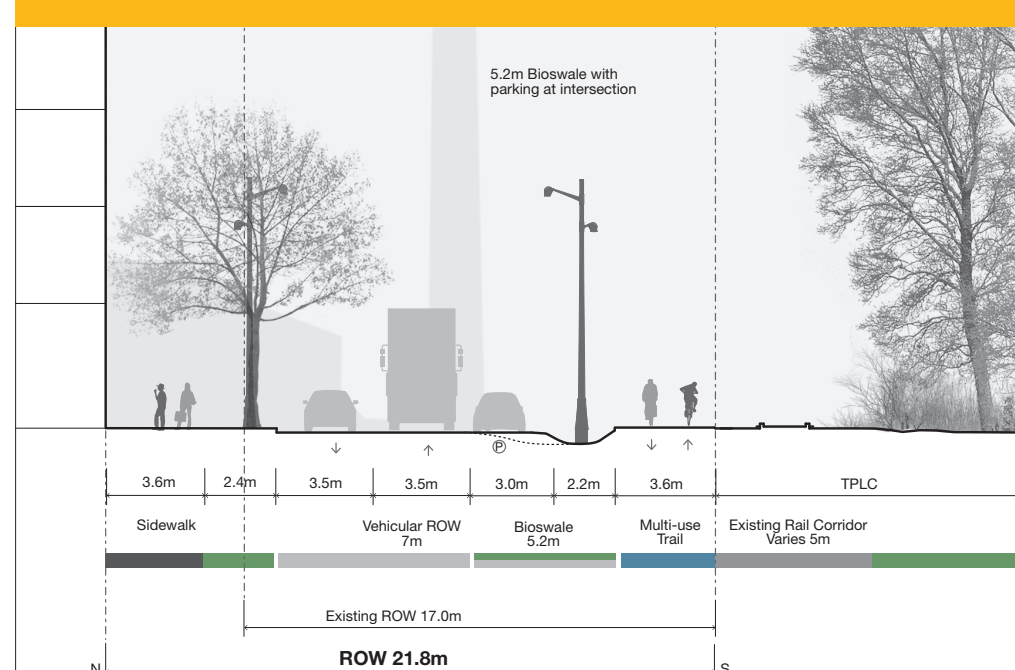
Maintain the existing alignment and capacity and improve the existing one-lane Bailey Bridge by providing a two-lane bridge across the circulating channel.

6-B. REALIGN AND ADD ADDITIONAL VEHICULAR LANES



Realign Unwin Avenue and provide two-lanes of traffic in each direction (four lanes total) with improved pedestrian and cycling amenity and some integrated stormwater management. Alignment to be confirmed in Phase 3 of the Municipal Class EA process.

6-C. REALIGN AND URBANIZE



Realign Unwin Avenue and provide one-lane of traffic in each direction (two-lanes total) while optimizing carrying capacity and providing enhanced pedestrian and cyclist amenity and integrated storm water management. Alignment to be confirmed in Phase 3 of the Municipal Class EA process.

UNWIN ALIGNMENT OPTIONS

The alignment of Unwin Avenue would be further explored in Phase 3 of the Municipal Class EA process. However, to better understand opportunities and constraints the project team explored potential options



UNWIN ALIGNMENT OPTION 1A:

- Opportunity to create significant net environmental gain.
- Strong urban design rationale - street engages the Hearn stack on axis from both directions and characterizes the edge of the wilds.
- Alignment interferes with existing PEC infrastructure.
- Sensitive cross section required through naturalized area - could be integrated into street character.



UNWIN ALIGNMENT OPTION 1B:

- Opportunity to create significant net environmental gain.
- Strong urban design rationale - street engages the Hearn stack on axis from both directions and characterizes the edge of the wilds.
- New bridge needed or fill and modifications/extensions to PEC infrastructure required.
- Alignment avoids interference with existing PEC infrastructure.
- Sensitive cross section required through naturalized area - could be integrated into street character.

EVALUATION OF ALTERNATIVES

CRITERIA	6-A. Maintain with Improved Bailey Bridge	6-B. Realign + Add Additional Vehicular Lanes	6-C. Realign + Urbanize
CREATING AN INTERESTING + DIVERSE URBAN MIX	Creation of new, vibrant mixed use communities and employment areas: ● Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area: ● Impacts and opportunities for existing/planned neighbourhoods: ● Impacts to existing businesses and industry and opportunities for new businesses and industry: ●	● ● ● ●	● ● ● ●
CONNECT THE PORT LANDS TO THE CITY	Better connects the Port Lands with the South of Eastern area and the rest of the city: ● Redundancy in the network for better access/service: ● Impacts to existing physical barriers: ● Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity: ●	● ● ● ●	● ● ● ●
LEVERAGE ASSETS	Cultural heritage resources: ● Archaeological resources + traditional uses of Aboriginal people: ● Impacts to existing/planned parks and open spaces and opportunities for enhancements: ● Compatibility with the natural environment: ● Creation of visual connections: ●	● ● ● ● ●	● ● ● ● ●
DEVELOP A HIGH QUALITY PUBLIC REALM	Achievement of the complete street principles + desired street character: ● Provision of safe, continuous and connected cycling routes: ● Place-making opportunities: ● Minimizes and/or improves health and safety issues: ●	● ● ● ●	● ● ● ●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY	Opportunities for innovation: ● Transit accommodation: ● Creation of flood risk potential and mitigation potential: ● Noise and air quality conditions: ● Climate change resiliency potential: ●	● ● ● ● ●	● ● ● ● ●
IMPLEMENTATION	Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards: ● Consistency with approved area Environmental Assessments: ● Engineering Feasibility and construction cost: ● Impacts on existing municipal infrastructure and utilities: ● Property acquisition costs: ● Maintenance and operations implications: ●	● ● ● ● ● ●	● ● ● ● ● ●
OVERALL PERFORMANCE	●	●	●

PREFERRED SOLUTION

The Alternative 6 C.1 – Realign and Urbanize - is preferred. The alternative enhances access for continued port and industrial usage while also accommodating safe and separated active transportation facilities. The alternative reinforces the wild character of the southern edge of Unwin Avenue. The alternative achieves the necessary lane of vehicular capacity in each direction and improves operation of the street through removal of the existing ninety degree jogs. There is a significantly improved opportunity for the management and integration of stormwater. Improvements to Unwin Avenue will provide access to businesses south of the Ship Channel and assist in facilitating a potential dedicated truck route with on-street parking to accommodate both park users in the off peak and the staging of trucks during busy winter months.



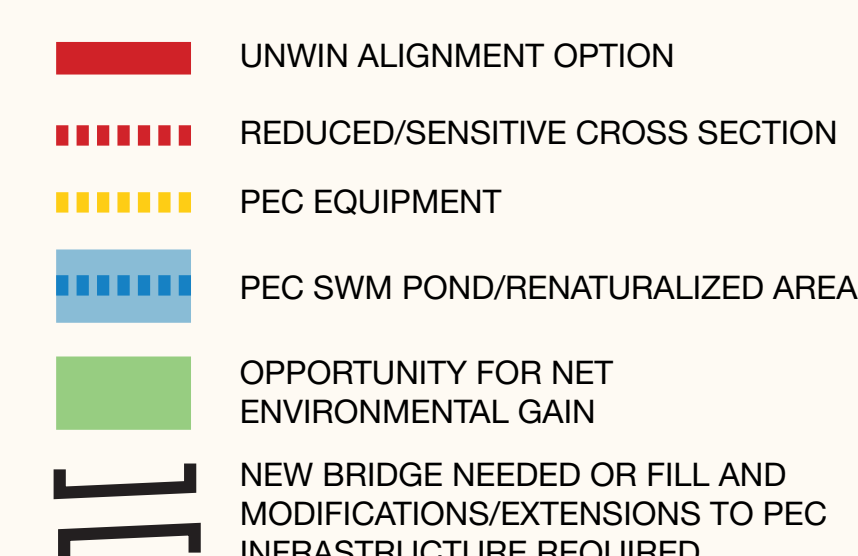
UNWIN ALIGNMENT OPTION 2A:

- Opportunity to create net environmental gain - but limited by bisecting street.
- Urban design rationale - street engages the Hearn stack from the west side and immerses within the extended wilds from the east side.
- New bridge needed or fill and modifications/extensions to PEC infrastructure required.
- Alignment avoids interference with existing PEC infrastructure.
- Alignment avoids interference with naturalized area.



UNWIN ALIGNMENT OPTION 2B:

- Opportunity to create net environmental gain.
- Urban design rationale - street engages the Hearn from both directions, meandering quality.
- New bridge needed or fill and modifications/extensions to PEC infrastructure required.
- Alignment avoids interference with existing PEC infrastructure.



PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

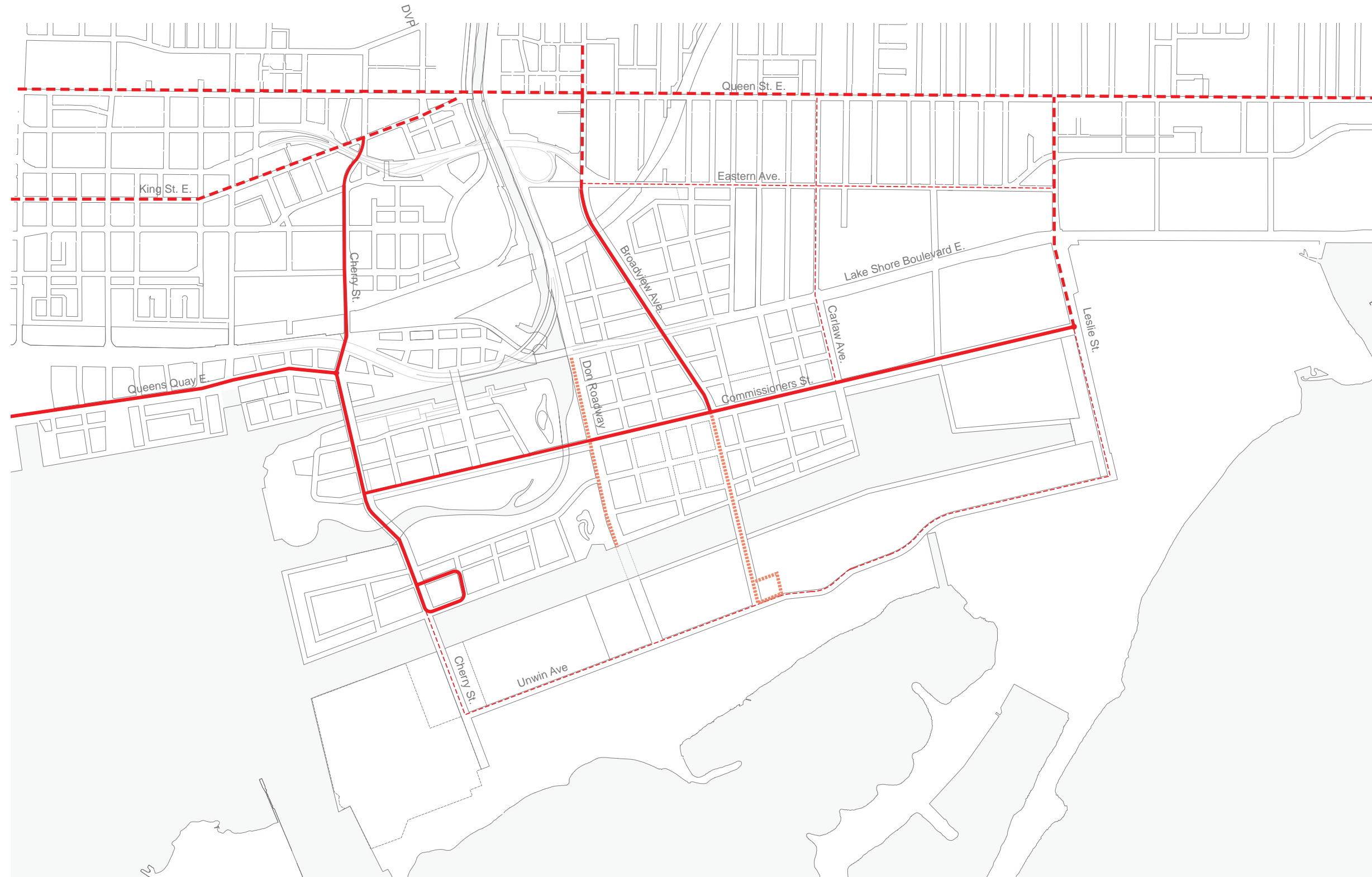
PREFERRED TRANSPORTATION NETWORK

Street Network



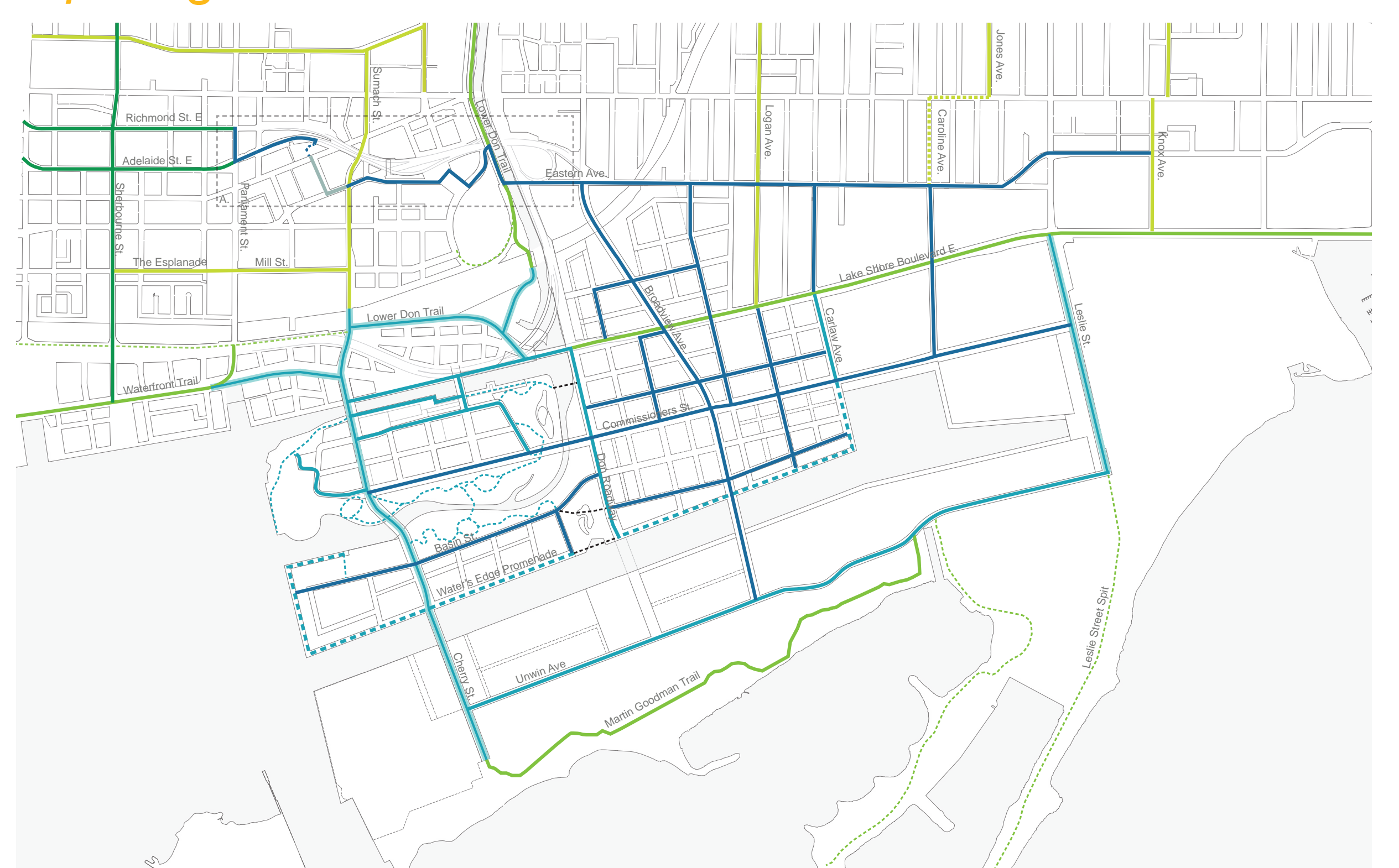
- Major Streets
- Conceptual Lanes
- Protected for Future Crossing
- * Connection Under Assessment
- Conceptual Local Streets
- Conceptual Midblock Connections

Transit Network



- Streetcar in Dedicated ROW
- Streetcar in Mixed-Traffic
- Protected for Future Streetcar in Dedicated ROW
- Bus in Mixed Traffic

Cycling and Pedestrian Facilities



- | | | |
|---|--|--|
| <ul style="list-style-type: none"> Proposed/Planned Cycle Track Multi-use Trail Water's Edge Promenade Trail Lane / Sharrows | <ul style="list-style-type: none"> Existing Cycle Track Lanes / Sharrows Multi-use Trail Trail Improved/Realigned Existing Multi-use Trail | <ul style="list-style-type: none"> Protected for Future Cycling/Pedestrian Connection A. Connection Requires Further Study |
|---|--|--|

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

COMPLETE STREETS & STREET CHARACTER

The identity of the streets is shaped by the unique, 'one and only' Port Lands elements. The streets are places - linear open spaces that embody the distinct character of the neighbourhoods they connect.

Complete Streets Principles

STREETSCAPES AS LINEAR OPEN SPACES, A SETTING FOR COMMUNITY LIFE AND ECONOMY TO CREATE A WELL-FUNCTIONING NETWORK AND VIBRANT, SAFE PUBLIC REALM: The streets in the Port Lands and South of Eastern are being designed to ensure all modes of travel (walking, cycling, driving, taking transit and moving goods) are balanced while also recognizing that different streets have different purposes, constraints and character.

Transit Prioritization through the use of dedicated transit rights-of-ways will improve the reliability of transit routes and convenience for passengers.

Minimum Lane Widths will assist in making streets safer and more pedestrian friendly. Narrower pavement widths contribute to safer vehicle speeds.

Bicycle Lanes + Cycle Tracks provided on all major streets will create a well-connected, robust and safe cycling network enabling active transportation as a primary means of moving in and through the area.

Wide Sidewalks with unobstructed, accessible pedestrian clearways will encourage walking and contribute to the overall vibrancy of in the Port Lands and South of Eastern public realm.

Accommodation of Goods Movement to ensure the continued economic vitality of *live industry*. Critical goods movement corridors will be designed with suitable conditions for truck access balanced with other complete street objectives.



Water as a Community Resource and other greenscape elements will divert stormwater and allow for infiltration while also improving air quality, providing habitat and adding visual interest to an area. Streets *celebrate* and embrace stormwater as a valuable resource and provide *access for LIFE!*

Permeable Surfaces for roadways and sidewalks will reduce flooding, preserve capacity in storm drains and sewers where provided and add visual interest in the overall street design.

Street Trees with adequate room to grow and high-quality soil conditions provide *shade, beauty and wildlife habitat*. They also reduce air pollution and energy consumption.

Pedestrian + Cycling Amenities are important elements to be considered in the design of streets and encourage people to be on our streets. Benches, bike rings, pedestrian-scaled lighting, weather protection, garbage and recycling receptacles and public art, among others, will be provided.

Innovative Features such as the *port/industrial/infrastructural qualities* of the study area will contribute to the character of the area. Other features like electric vehicle charging stations, bicycle and car sharing stations and renewable energy features will contribute to a *sustainable future* for the area.

Commissioners Street



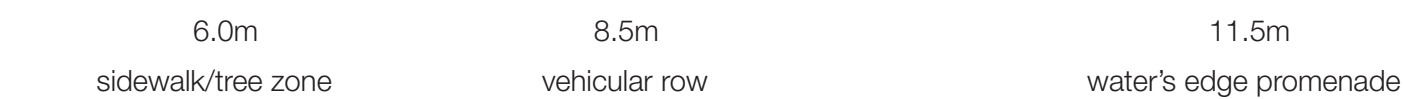
Commissioners Street is the Port Lands' oldest street - a key east-west corridor that will connect future public spaces such as the new Don Estuary, the Commissioner's community hub and the Turning Basin Water Square. The existing character of the street will be enhanced - integrating key heritage and cultural heritage landscape elements into the design. Integrating storm-water features within the overall streetscape is also being explored through a wide landscaped median that integrates the street's power heritage with a generous multi-use trail.



Ship Channel and Water's Edge



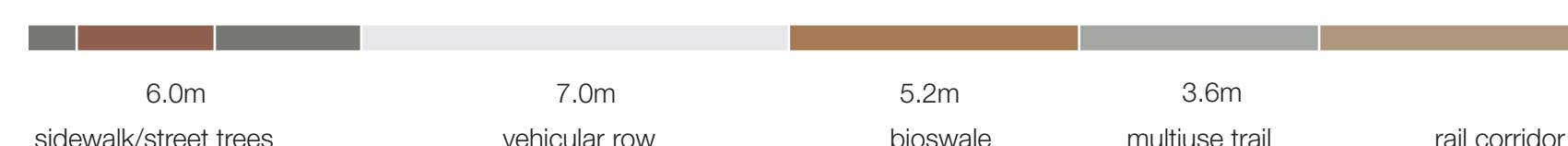
The Ship Channel is a 3km waterfront being designed to promote continuous public access and diversity of experience. A variety of water's edge experiences are designed that embody the distinct and diverse character of the adjacent districts. To promote 4-season animation of the waterfront, loop streets are being proposed alongside generous stretches of promenade solely for pedestrians and cyclists. Floating elements, compatible with shipping needs, are also being explored to further animate the water's edge.



Unwin Avenue



Unwin Avenue will be the seam between an urban industrial district and the wilderness of the future Lake Ontario Park. The street's existing 'wild' quality will be enhanced with new pedestrian and cycling infrastructure that hugs this treed edge and integrates the rail lines. A continuous, curbside bioswale along the south side of the vehicular ROW is being explored and will be designed to reinforce the natural edge. Realigning a portion of the street is also being explored to better engage with the Hearn by framing the iconic chimney stack.



* This is the general direction and is illustrative of the future street character

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

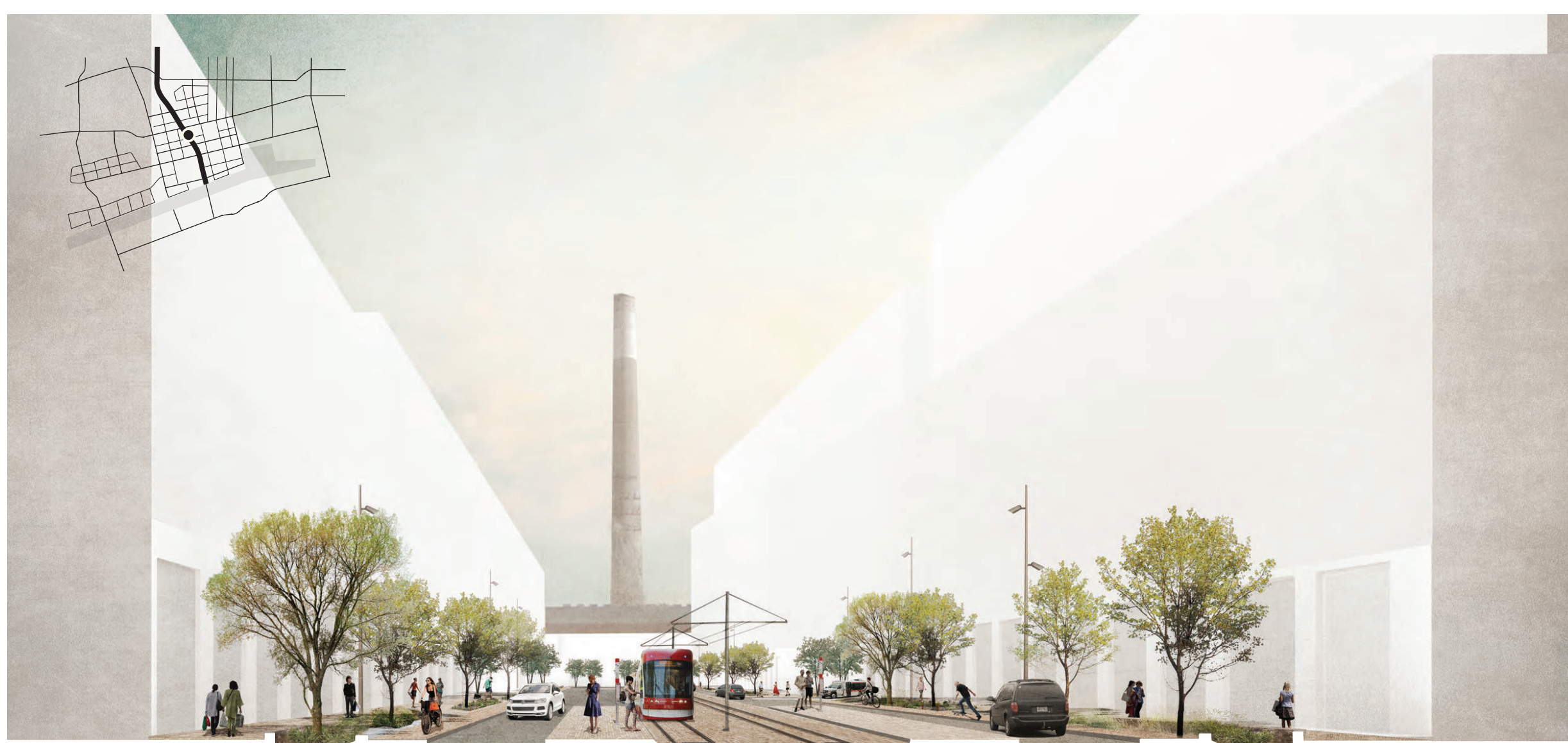
COMPLETE STREETS & STREET CHARACTER

Six signature north-south streets stitch the Port Lands and South of Eastern back to the city. Three east-west linear systems unite the Harbour and the Wilds.

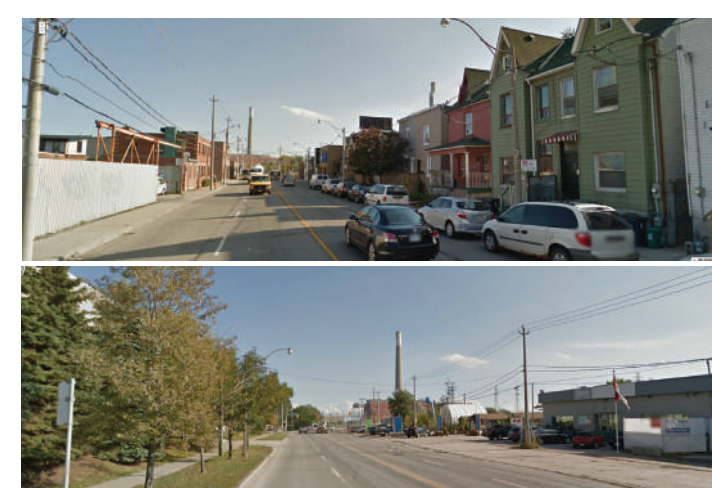
Broadview Extension



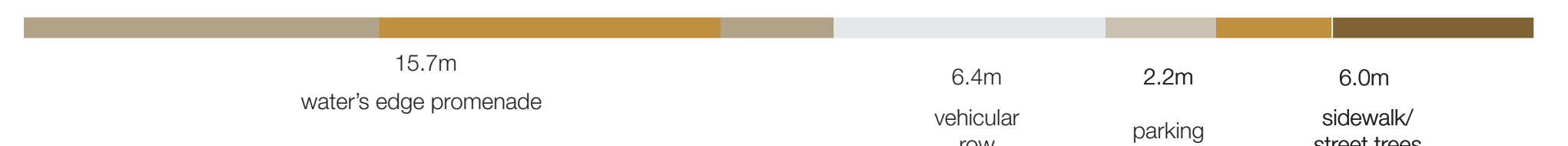
The extension of Broadview Avenue will be a key connection in and through the area - a new civic spine that links the ravines to the harbour. It will add a critical connection that introduces dedicated transit across Lake Shore and potentially further south to the Hearn - stitching the Port Lands to the city. The street is aligned on axis with the Hearn chimney stack - framing this iconic piece of Toronto history and animating this important city link.



Carlaw Avenue



Carlaw Avenue is a compact right-of-way accommodating existing development, stable residential and industrial uses north of Lake Shore Boulevard. Reconfiguration of the existing right-of-way would enable additional pedestrian and cyclist amenity while maintaining vehicular capacity, residential, and industrial access and on-street parking. Within the Port Lands, Carlaw extends along the Turning Basin - drawing the water's edge promenade into the street and providing new opportunities to engage with water.



Don Roadway



The Don Roadway will be defined by its adjacency to the future Don Estuary. A continuous estuary wall along the western edge of the street will be the interface with the new Greenway, providing places to sit while taking in views over the new estuary. The design of the street protects for future transit expansion within a temporary linear park. It also anticipates a possible bridge across the Ship Channel that could accommodate pedestrian, cyclists, vehicles, transit and potentially wildlife.



Cherry Street



Starting from the celebrated Strauss Trunion Bascule Bridge, Cherry Street will be a gateway to the beach that will activate and complement the proposed Maritime Hub. A constructed linear beach will extend the Cherry Beach into the Port Lands and reinforce the historic sand bar. This open space, lined with cherry trees, will be animated by markets and grade-related spillout. Stormwater collected from the street is proposed to be filtered within the sandy strip.



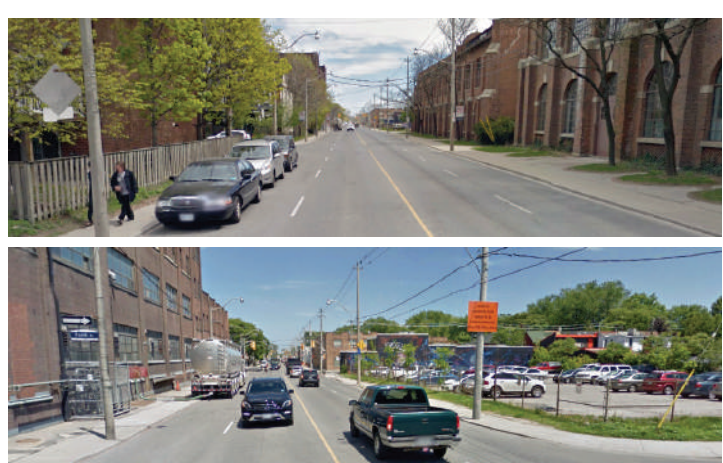
* This is the general direction and is illustrative of the future street character

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

COMPLETE STREETS & STREET CHARACTER

A resilient, fine-grained local street network will allow for the evolution of diverse and memorable districts within the Port Lands and South of Eastern.

Eastern Avenue

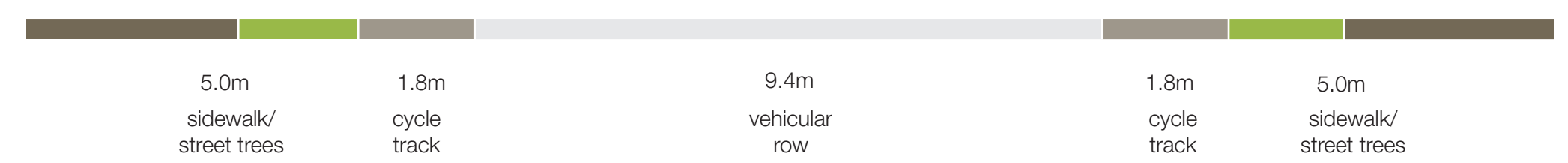
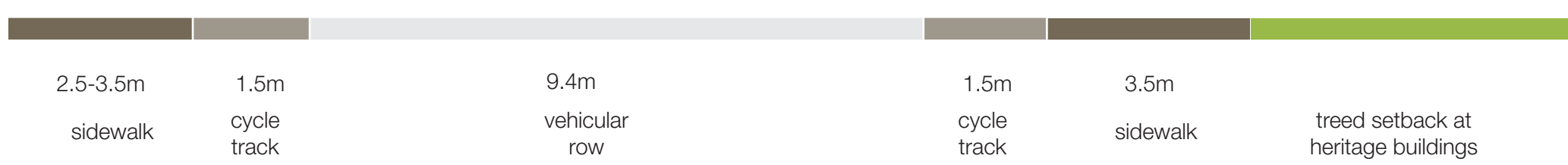


Eastern Avenue is a compact, 20 metre right-of-way with varying conditions across the study area - including established residential, active industry, film uses and heritage resources. The proposed conditions for this street acknowledge the existing uses while identifying improvements to the pedestrian realm and cycling infrastructure - maintaining on-street parking and great trees where possible.

New North-South Street



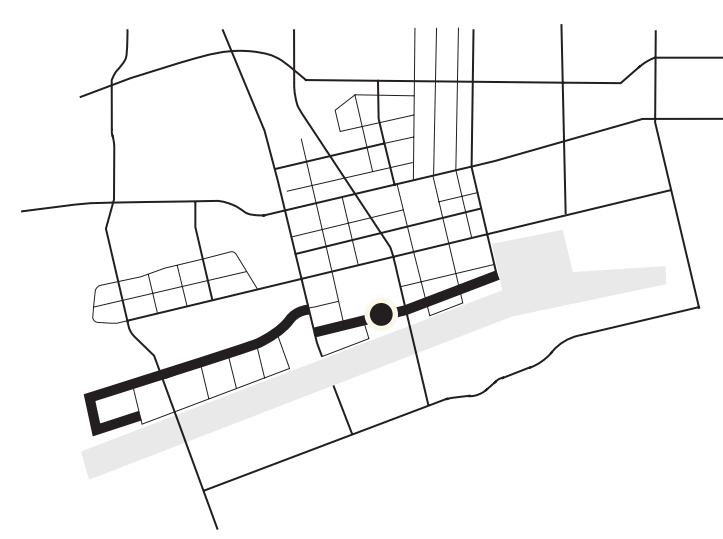
The new north-south street will also assist in stitching the Port Lands into the city, terminating at the future Turning Basin Park. The street would be designed to perform diverse functions to both accommodate and ensure continued employment growth in the Port Lands and South of Eastern areas, while also minimizing potential impacts to existing stable residential areas to the north and creating enhanced multi-modal connections into and out of the Port Lands.



Local Streets

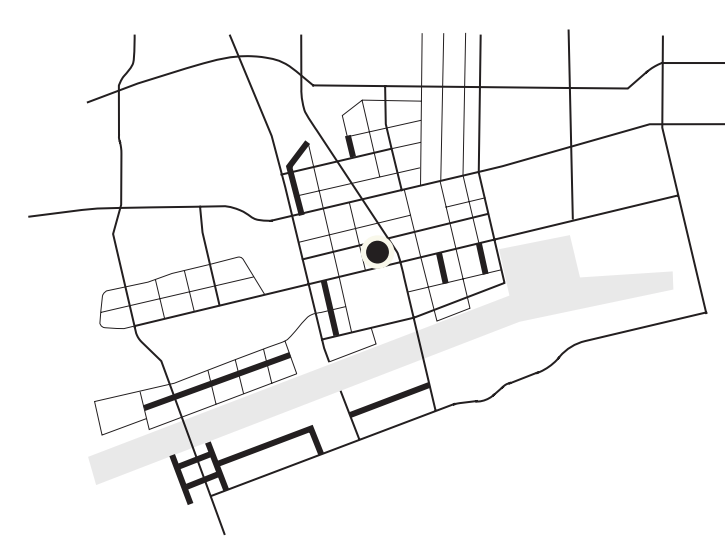


A resilient local street network will allow the evolution of diverse and memorable districts within the Port Lands. A fine-grain network of 18.5m right-of-way streets is designed to accommodate different functions in different districts.

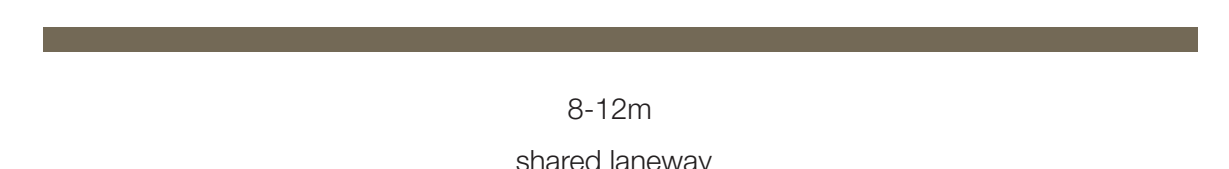
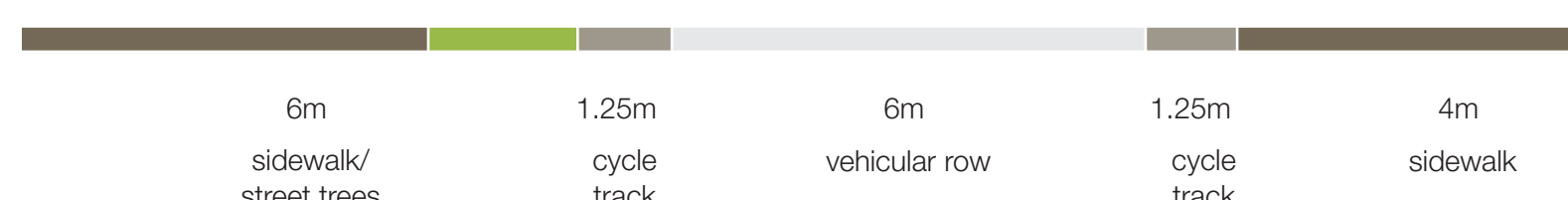
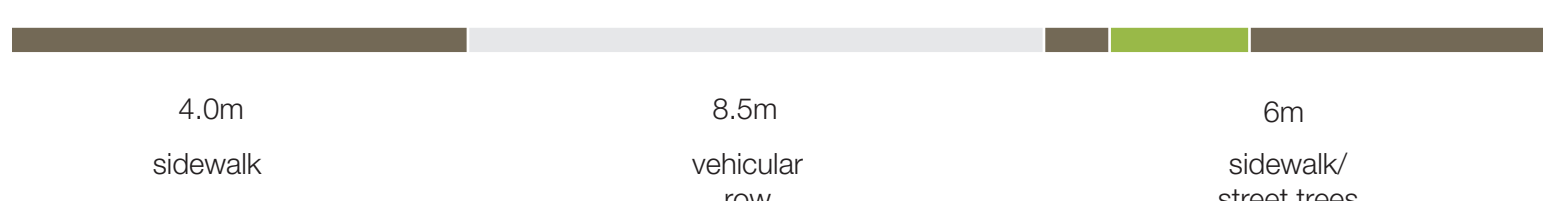


The flexible, local streets support a different balance of uses across the distinct neighbourhoods. Some are film friendly and flexible for industry. Some prioritize linking into the cycling network. All are intimate local streets for local experiences.

Laneways



Shared laneways further break down blocks to increase porosity for pedestrians and cyclists. These mid-block connections are designed as places, linking to the open space system.



* This is the general direction and is illustrative of the future street character

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

Movement and Access



Progressive approaches to how people and goods will move in and through the area are a fundamental component of the Port Lands and South of Eastern EA. Detailed analysis has been undertaken to ensure sufficient vehicular capacity is provided for the population and employment being assessed, maximize transit use, ensure balanced rights-of-way that provide high-quality pedestrian and cycling facilities and that can accommodate goods movement.

Capacity Analysis

The figure below is used to identify the potential for deficiencies in the street network that may cause congestion. A screenline analysis was used to define capacity deficiencies in the base network when compared to the predicted future traffic volumes. The base network reflects the current and approved transportation network. Screenlines are imaginary or real boundaries that define a broad corridor across which traffic flows. The screenline analysis compared the traffic volume across the screenline to the available capacity and identified where there are capacity deficiencies that can be resolved by construction of new streets or lanes. Deficiencies of one lane in each direction were identified for each of the screenlines shown as arrows below.

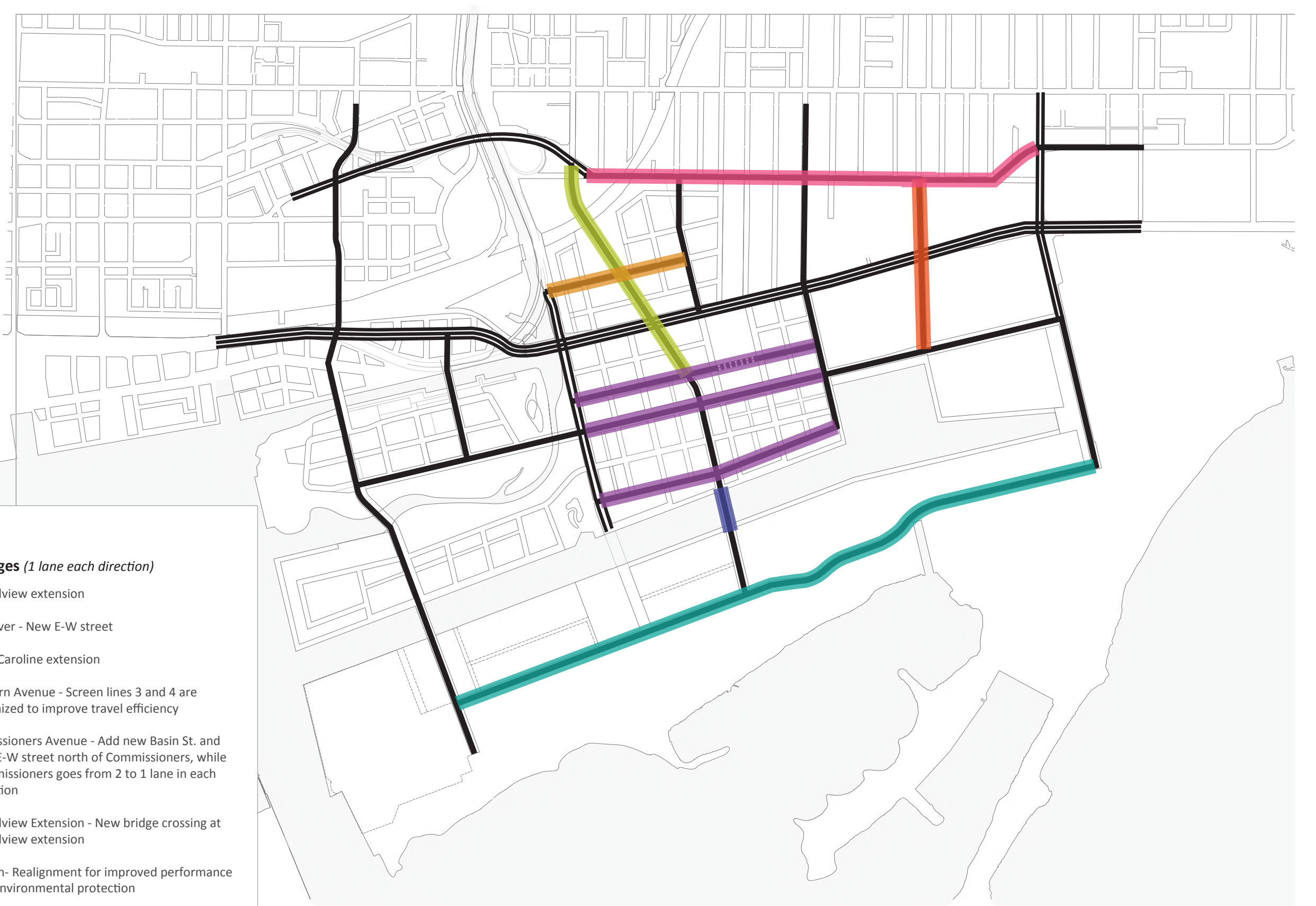


A Long Term Transportation Vision

The street, transit and active transportation components of the EA are being assessed for a 50-year time horizon. Detailed transportation analysis was completed using approaches commonly used today to understand the need for new streets and vehicular capacity and how many people can be moved with a network of surface transit.

Future Preferred Network Resolves Deficiencies

The proposed network resolves each of the capacity deficiencies identified. Modeling confirmed that the network provides an adequate level of service to support the planned employment and residential uses.



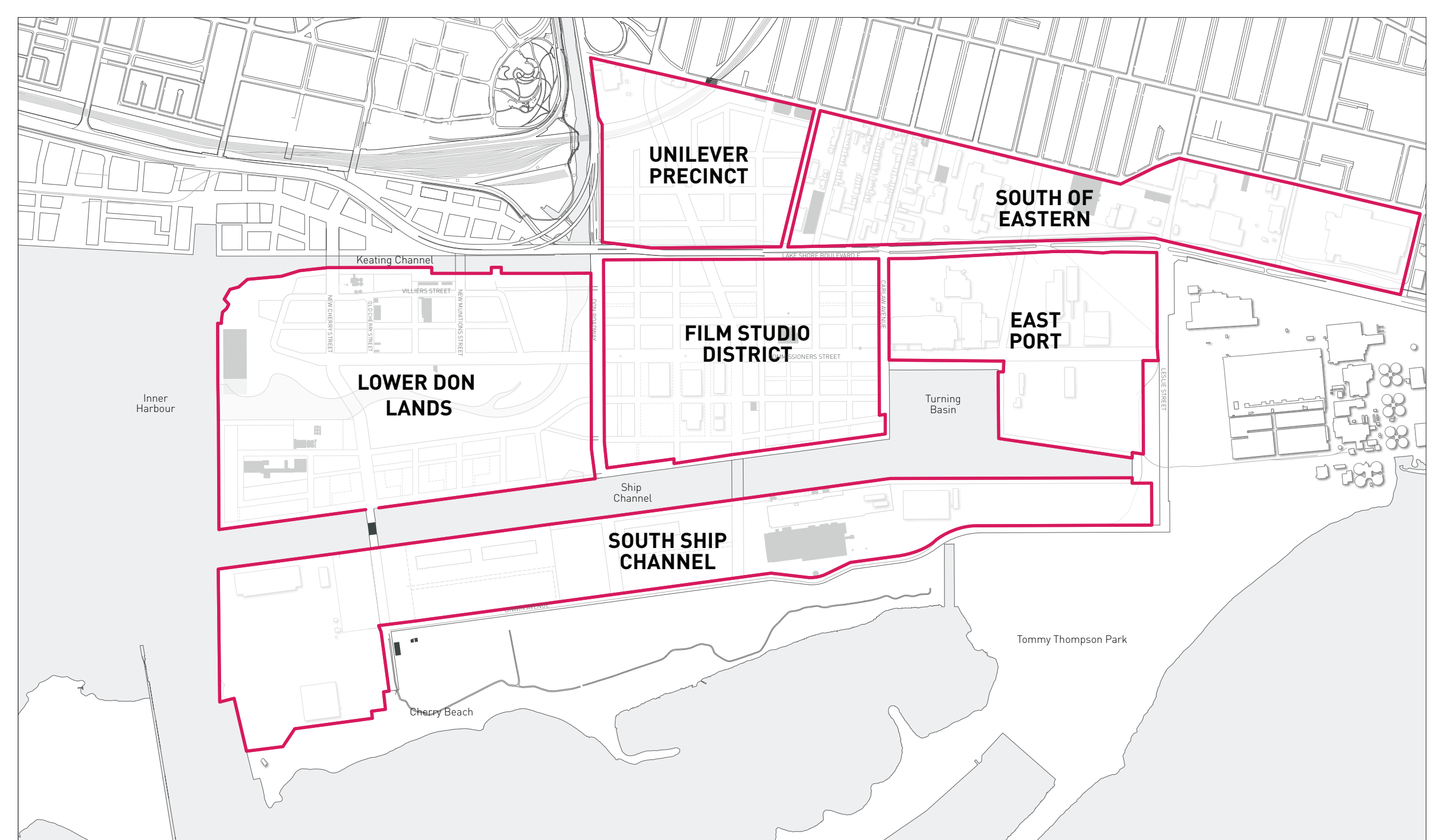
TRANSIT MODE SPLITS

Mode splits were refined using a "bottom-up approach" that assessed the amount of capacity available within the surface transit system contemplated in the EA, maximize transit ridership based on type of transit and that took into account the anticipated land use mix. A conservative approach has been used to ensure the street network is capable of handling a wide variety of futures.



POPULATION AND EMPLOYMENT ESTIMATES

Assumptions made for future population and employment for the EA were based on a recognition of the infrastructure currently available today or that is being assessed as part of this EA. Accommodating additional employment intensification within the Unilever precinct will require additional higher-order rapid transit that is being assessed through other studies like the Relief Line Assessment.



District	Number of Residents	Number of Jobs
Unilever Precinct	0	23,350
South of Eastern	550 existing	9,500
Lower Don Lands	Between 8,700 to 15,200*	9,000
Film Studio District	Between 9,225 to 13,350*	Between 9,500 to 14,500*
East Port	0	3,800
South of Ship Channel	0	4,300

*A range of population and employment has been tested for the Lower Don Lands and Film Studio District given that land use continued to be under review during the EA.

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

WATER SYSTEM

Context

Existing network of watermains in the Port Lands and South of Eastern ranges in size from 150-300mm diameter and is supplied from City of Toronto's water supply network (Pressure Zone 1).

The water system provides the necessary flows at adequate pressures to the majority of the Study Area however, there are some areas closer to the lake where water pressures are higher due to the lower ground elevation and buildings need to install pressure reducing valves to prevent plumbing damage.

In some streets in the Study Area, fire flows are lower due to smaller diameter piping or lack of looping in the system.

Alternatives

Water servicing alternatives for the Study Area were developed based on City of Toronto master planning for future infrastructure requirements undertaken through the Joint Optimization Study and the City's Water Conservation program.

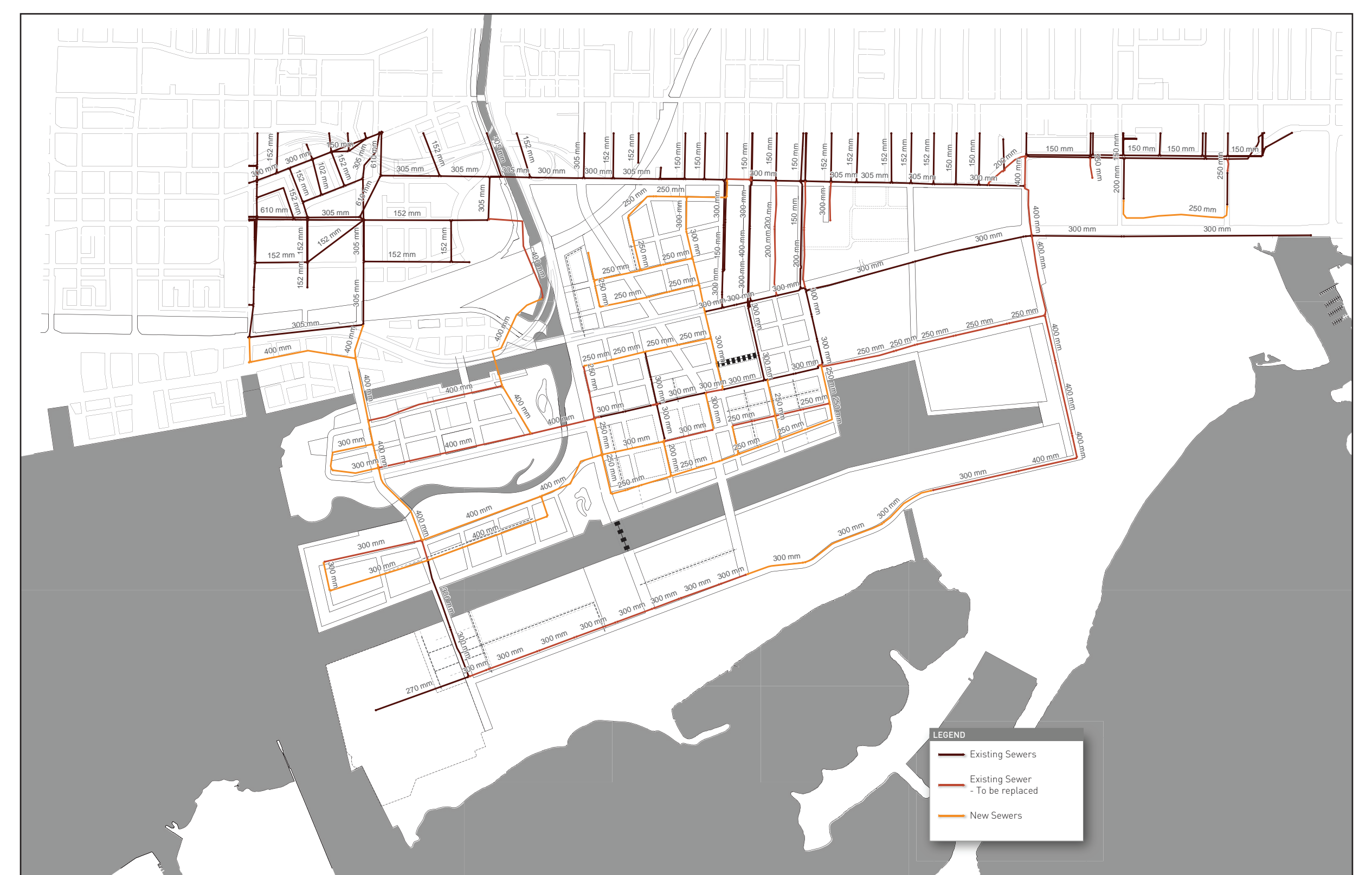
1. Reduce Water Usage by Users and Keep Existing Network provides a baseline analysis but does not provide a complete solution throughout the Study Area
2. Reduce Water Usage by Users and Enlarge/Extend Network, identify areas of existing network that need upsizing to meet future demand and new watermains required for system security/looping
3. Reduce Water Usage by Users and Enlarge/Extend Network and Install Separate Pipe System for non-Potable Users in areas of existing network that need upsizing to meet future demand and where new watermains are required for system security/looping

EVALUATION OF ALTERNATIVES

CRITERIA	1-Reduce Water Usage by Users and Keep Existing Network	2- Reduce Water Usage by Users and Enlarge/Extend Network	3-Reduce Water Usage by Users and Enlarge/Extend Network and Install Separate Pipe System for Non-Potable Users
CREATING AN INTERESTING + DYNAMIC URBAN MIX			
Creation of new, vibrant mixed use communities and employment areas	●	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●
CONNECT THE PORT LANDS TO THE CITY			
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●
Redundancy in the network for better access/service	●	●	●
Impacts to existing physical barriers	N/A	N/A	N/A
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	N/A	N/A	N/A
LEVERAGE ASSETS			
Cultural heritage resources	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●
Compatibility with the natural environment	●	●	●
Creation of visual connections	N/A	N/A	N/A
DEVELOP A HIGH QUALITY PUBLIC REALM			
Achievement of the complete street principles + desired street character	N/A	N/A	N/A
Provision of safe, continuous and connected cycling routes	N/A	N/A	N/A
Place-making opportunities	N/A	N/A	N/A
Minimizes and/or improves health and safety issues	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY			
Opportunities for innovation	●	●	●
Transit accommodation	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●
Noise and air quality conditions	●	●	●
Climate change resiliency potential	●	●	●
IMPLEMENTATION			
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●
Consistency with approved area Environmental Assessments	●	●	●
Engineering Feasibility and construction cost	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●
Property acquisition costs	●	●	●
Maintenance and operations implications	●	●	●
OVERALL PERFORMANCE	●	●	●

● Very Poor ● Poor ● Good ● Very Good

PREFERRED SOLUTION



Alternative 2, to Reduce Water Usage by Users and Enlarge/Extend Network is preferred because:

- Alternative 1 does not provide a complete solution for the Study Area;
- Alternative 3 will significantly increase both capital and operating requirements to operate a dual system in accordance with Toronto Water, Public Health and Toronto Fire Services requirements. It is difficult to justify this additional cost with an abundant and readily-treated water supply close by; and,
- New and upsized infrastructure will be aligned with the new street network to meet design standards for supply pressure and fire flows supply.

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

WASTEWATER SYSTEM

Context

The wastewater system in the Port Lands and South of Eastern is a separated system of pipes for sanitary and stormwater flows. The sanitary sewers range in diameter from 200 mm to 675 mm and connect by gravity to the large diameter Low Level Interceptor (LLI) for treatment at the Ashbridges Bay Wastewater Treatment Plant located directly adjacent to the Study Area.

South of the Ship Channel, there are no sanitary sewers located west of the Port Lands Energy Centre and the businesses and the washroom facilities for the recreational fields rely on septic tanks or other private waste treatment/storage systems.

At the current low rate of development in the Study Area, sewers are generally underutilized and function well during dry weather flow conditions.

During moderate wet-weather events, the high level in the Low level Interceptor can cause sewage flow to back up into areas of the Study Area which can result in flooding of basements.

Alternatives

Wastewater servicing alternatives for the Study Area have been developed in co-ordination with the Waterfront Sanitary Servicing Master Plan (WSSMP) Update and the Lower Don Lands Infrastructure Master Plan. An update of the WSSMP is currently underway to take into consideration the strong development growth along the waterfront and advances in studies for nearby infrastructure upgrades. The alternatives presented in early 2014 have therefore been refined to focus on addressing servicing issues specific to the Study Area, eliminating some of the alternatives and refining the remaining. A connection of the Port Lands to the Low Level Interceptor has been screened out because it is addressed in the WSSMP. The option to collect flows in the Port Lands and pump flows directly to the Ashbridges Bay Wastewater Treatment Plant is no longer being considered because low flow rates do not warrant the additional cost of a pumping station. An additional alternative has been developed that allows for treatment of wastewater collected for lands south of Ship Channel west of, and including the Hearn, in a new decentralized facility.

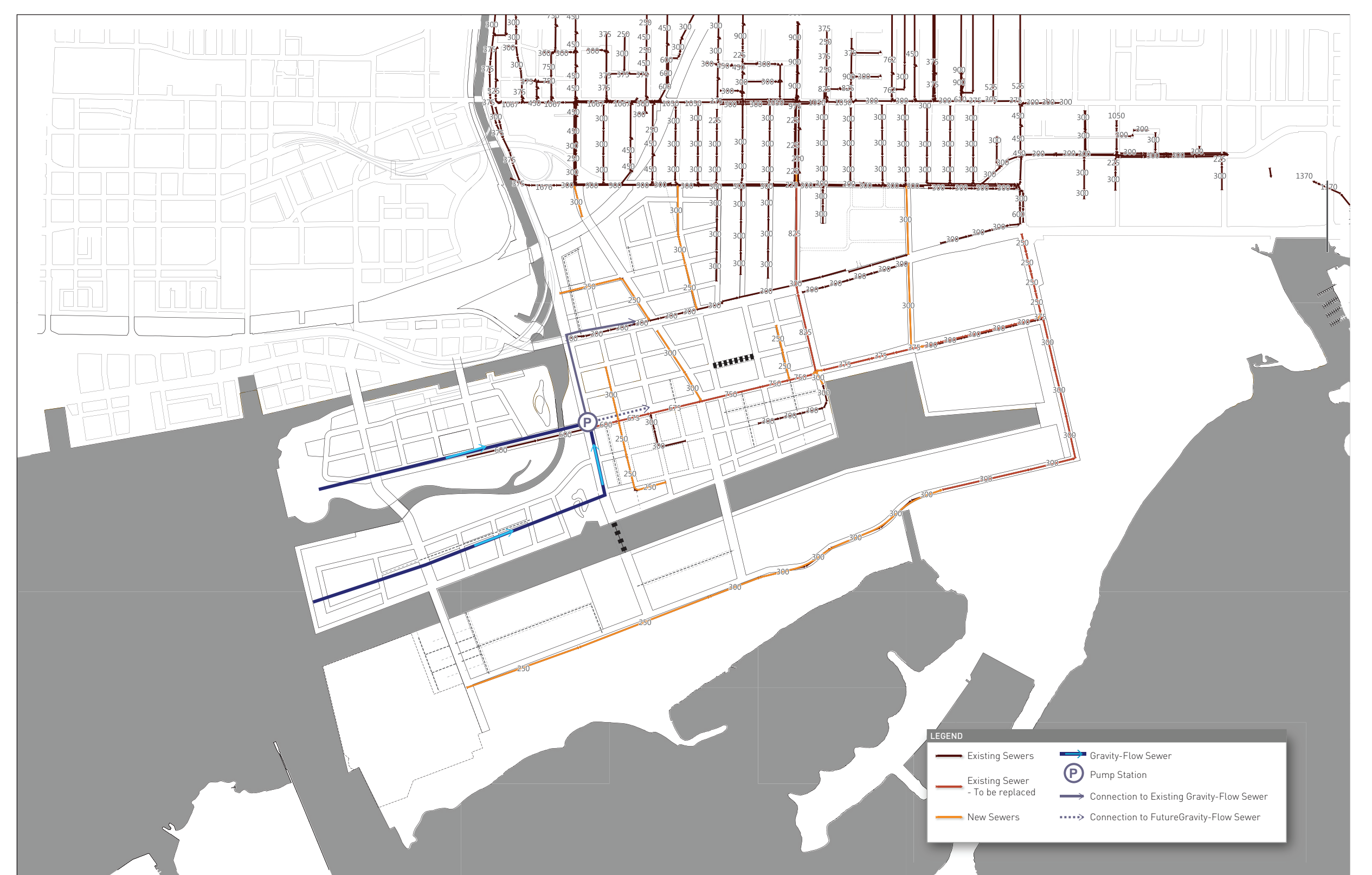
1. Do Nothing & Reduce Waste Water Flows - provides a baseline analysis but does not provide a complete solution throughout the Study Area
2. Reduce Waste Water Flows & Enlarge/Extend Collection - Convey flow from Port Lands via Carlaw Avenue inter-connecting sewer at Eastern Avenue to Treatment Plant
3. Reduce Waste Water Flows & Enlarge/Extend Collection and Provide Decentralized Treatment – for flows South of Ship Channel (west of, and including the Hearn)

EVALUATION OF ALTERNATIVES

CRITERIA WASTEWATER	1- Do Nothing & Reduce Waste Water Flows	2-Enlarge/Extend Collection - Convey flow via Carlaw Avenue inter-connecting sewer	3-Enlarge/Extend Collection - Decentralized Treatment for Some Flows
CREATING AN INTERESTING + DYNAMIC URBAN MIX			
Creation of new, vibrant mixed use communities and employment areas	●	●	●
Necessary vehicular capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●
CONNECT THE PORT LANDS TO THE CITY			
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●
Redundancy in the network for better access/service	●	●	●
Impacts to existing physical barriers	●	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	N/A	N/A	N/A
LEVERAGE ASSETS			
Cultural heritage resources	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●
Compatibility with the natural environment	●	●	●
Creation of visual connections	N/A	N/A	N/A
DEVELOP A HIGH QUALITY PUBLIC REALM			
Achievement of the complete street principles + desired street character	N/A	N/A	N/A
Provision of safe, continuous and connected cycling routes	N/A	N/A	N/A
Place-making opportunities	N/A	N/A	N/A
Minimizes and/or improves health and safety issues	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY			
Opportunities for innovation	●	●	●
Transit accommodation	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●
Noise and air quality conditions	●	●	●
Climate change resiliency potential	●	●	●
IMPLEMENTATION			
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●
Consistency with approved area Environmental Assessments	●	●	●
Engineering Feasibility and construction cost	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●
Property acquisition costs	●	●	●
Maintenance and operations implications	N/A	●	●
OVERALL PERFORMANCE	●	●	●

● Very Poor ● Poor ● Good ● Very Good

PREFERRED ALTERNATIVE



New streets will have new pipes; existing streets will may require upgraded pipes in some areas.

Alternative 2 - Enlarge/Extend Collection - Convey flow via Carlaw Avenue inter-connecting sewer is preferred because:

- It prevents potential flooding and supports redevelopment of the Unilever Precinct;
- It provides full municipal servicing to users south of Ship Channel that are currently on holding/septic tanks;
- Alternative 1 does not provide servicing to the entire Study Area;
- Alternative 3 would result in additional operating and capital cost given that the Ashbridges Bay Treatment Plant is in direct proximity and has sufficient treatment capacity;
- Implementation of a decentralized facility would also require compliance with a complex and undefined regulatory approvals process; and,
- Connection of the Port Lands area to Carlaw Interconnecting Sewer removes potential of flooding.

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

Stormwater Management

ALTERNATIVES

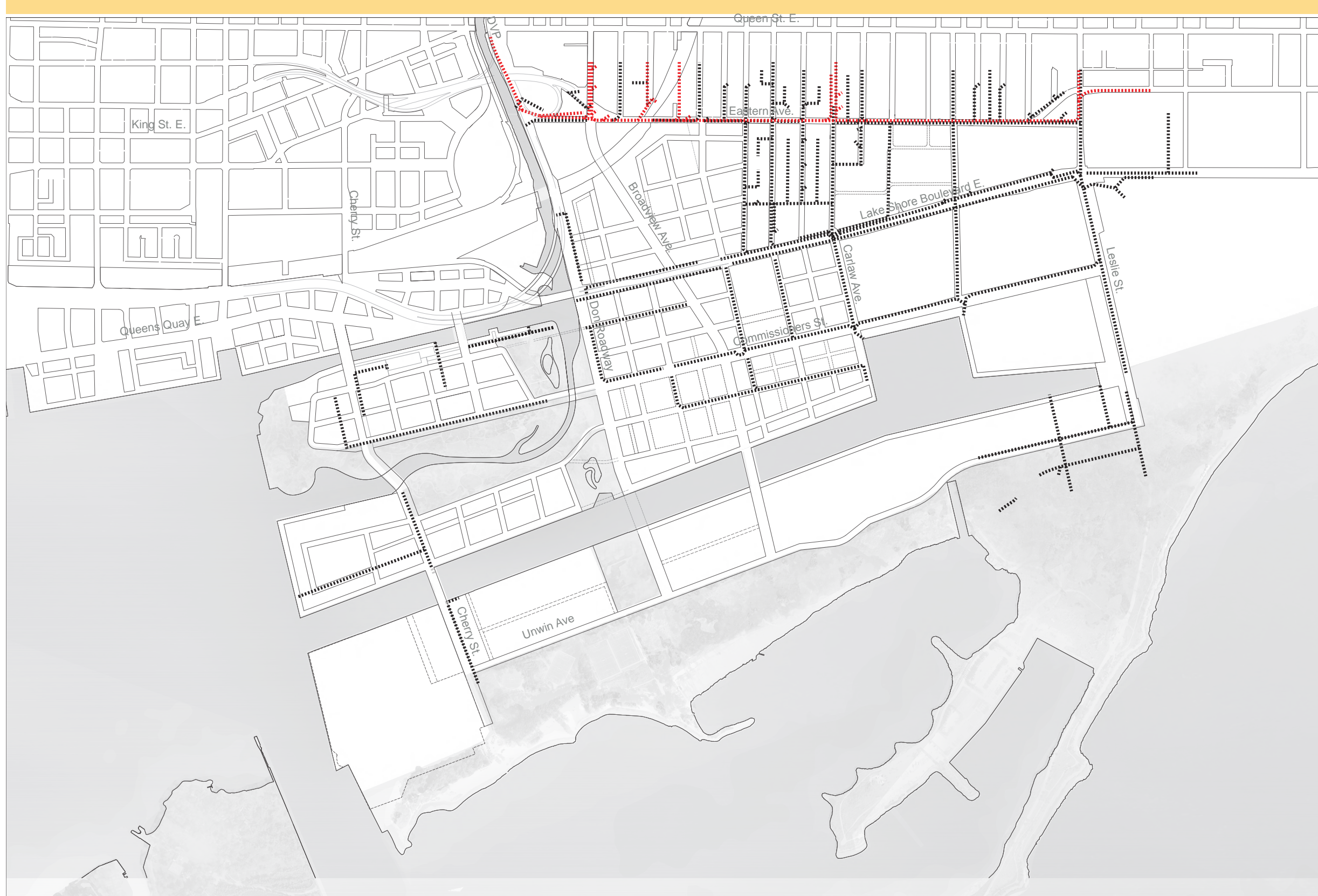
Revitalization and redevelopment of the Port Lands and South of Eastern will require new stormwater infrastructure. Existing conditions are insufficient to meet future development due to:

- Aging and limited stormwater infrastructure north of the Ship Channel;
- Stormwater runoff typically draining overland south of the Ship Channel due to lack of infrastructure; and,
- Stormwater ponding in low-lying areas during heavy rainfall.

Surface runoff in the Port Lands and South of Eastern drains directly into the Ship Channel and Lake Ontario without treatment and, contingent on location, there are limited or absent stormwater management measures to meet the City of Toronto, as well as the TRCA and MOECC, guidelines.

The Don Mouth Naturalization and Port Lands Flood Protection Project Environment Assessment (DMNP EA) addressed overflow from the Don River during large storm events which affected the study area and provided the base condition for this study.

ALTERNATIVE 1 : DO NOTHING



Future development occurs however existing sewer network remains unchanged. Proposed street layout and DMNP EA flood protection measures will also be in place.

ALTERNATIVE 2: CONVENTIONAL APPROACH



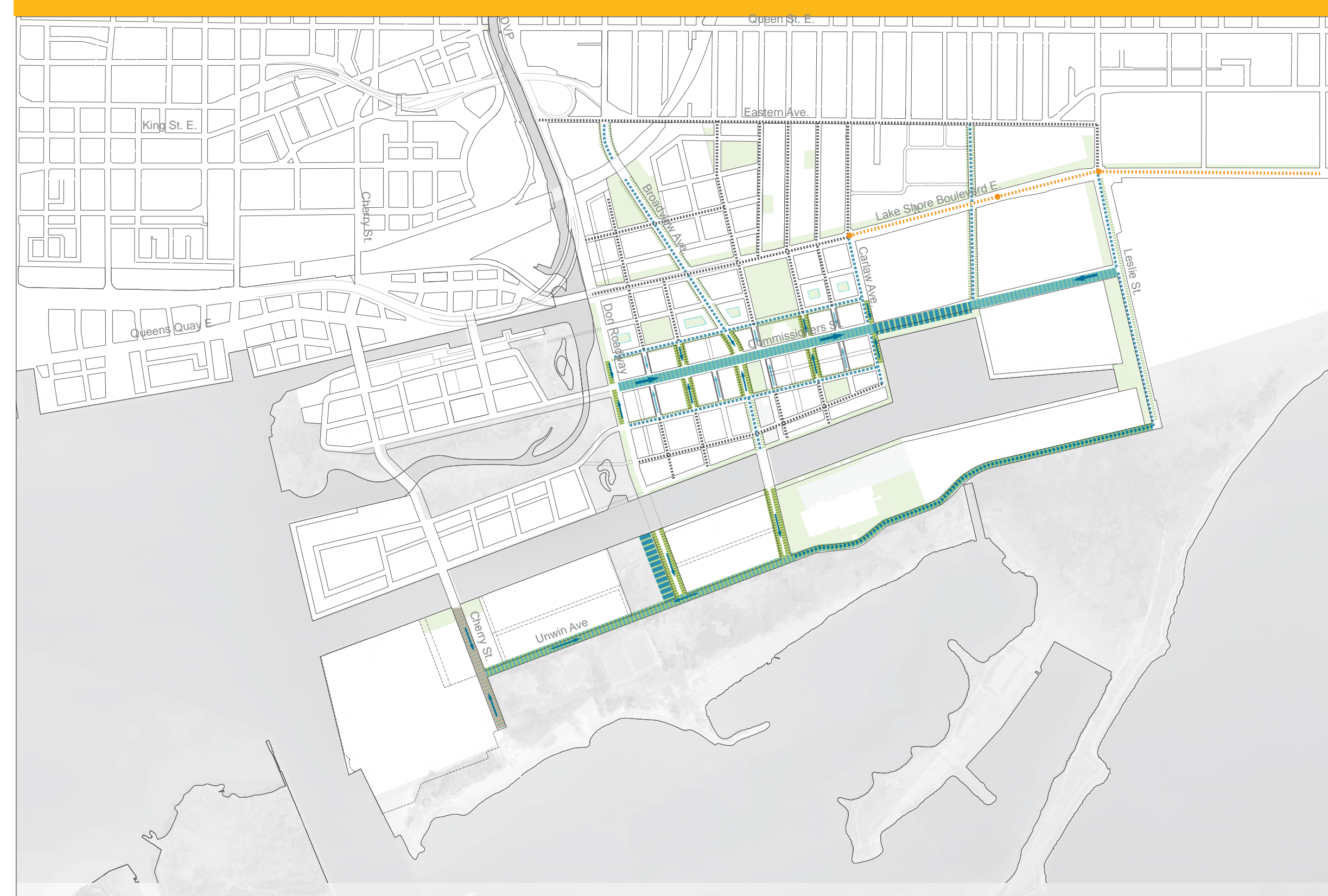
Future development occurs and is supported by conventional storm sewer network and stormwater management approach such as underground cisterns. Proposed street layout and DMNP EA flood protection measures will be in place.

EVALUATION OF ALTERNATIVES

CRITERIA	1-Do Nothing	2 - Conventional	3 - Water as a Resource
CREATING AN INTERESTING DYNAMIC URBAN MIX			
Creation of new, vibrant mixed use communities and employment areas	●	●	●
Necessary capacity to support the anticipated mix of uses in the Port Lands and South of Eastern area	●	●	●
Impacts and opportunities for existing/planned neighbourhoods	●	●	●
Impacts to existing businesses and industry and opportunities for new businesses and industry	●	●	●
CONNECT THE PORT LANDS TO THE CITY			
Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●
Impacts to existing physical barriers	●	●	●
Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●
LEVERAGE ASSETS			
Cultural heritage resources	●	●	●
Archaeological resources + traditional uses of Aboriginal people	●	●	●
Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●
Compatibility with the natural environment	●	●	●
DEVELOP A HIGH QUALITY PUBLIC REALM			
Achievement of the complete street principles + desired street character	●	●	●
Place-making opportunities	●	●	●
Minimizes and/or improves health and safety issues	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY			
Opportunities for innovation	●	●	●
Transit accommodation	●	●	●
Creation of flood risk potential and mitigation potential	●	●	●
Noise and air quality conditions	●	●	●
Climate change resiliency potential	●	●	●
IMPLEMENTATION			
Compatibility with City, provincial planning policies + Waterfront Toronto Framework standards	●	●	●
Consistency with approved area Environmental Assessments	●	●	●
Engineering Feasibility and construction cost	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●
Property acquisition costs	●	●	●
Maintenance and operations implications	●	●	●
OVERALL PERFORMANCE	●	●	●

● Very Poor ● Poor ● Good ● Very Good

ALTERNATIVE 3: WATER AS A RESOURCE



Future development occurs and is supported by combination of storm sewer network and open channel systems within designated pilot areas. Stormwater management approach highlights sustainability, low-impact development and incorporating water into the public realm. Proposed street layout and DMNP EA flood protection measures will be in place.

PREFERRED ALTERNATIVE: WATER AS A RESOURCE

The Water as a Resource alternative is preferred. The alternative uses Low Impact Development (LID) measures and a treatment train process to promote a sustainable integrated approach to stormwater management in the Port Lands and South of Eastern. The concept values water from both a human and ecological perspective and seeks to provide an everyday interaction with water as part of the design of infrastructure in the study area, and showcase the natural water systems in the area, while still meeting stringent City of Toronto guidelines.

PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

Stormwater Management DISINFECTION ALTERNATIVES

PREFERRED DISINFECTION LOCATIONS

Stormwater will be cleaned through a disinfection process. There are a variety of processes that can be used to clean stormwater including through UV treatment facilities and satellite facilities that already exist or are proposed for the study area. Disinfection options were organized into north and south areas. Out of all locations for disinfecting water the locations below are preferred.

North of Ship Channel it is preferred that we allow for future stormwater to be treated in two possible locations (A and C)

Option 2-E: All treatment flows to satellite facility near the Ashbridges Bay Treatment Plant (C). This option leverages existing assets and future infrastructure proposed in the Inner Harbour Tunnel (IHT).

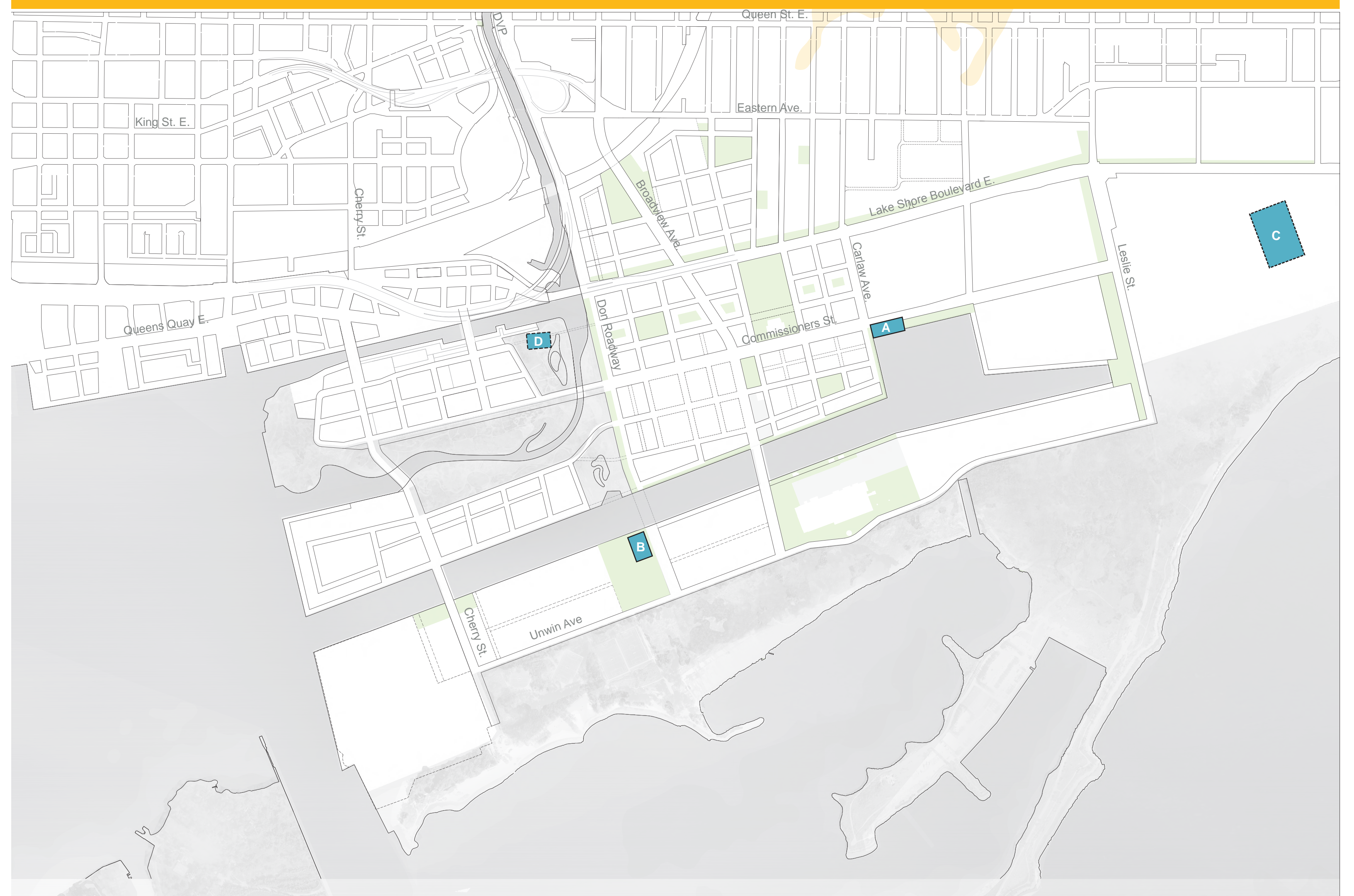
Option 2-F: Treatment flows are split between the satellite wet weather flow treatment facilities near the Ashbridges Bay Treatment Plant (C) & flows can also travel to an independent location (A) to provide an opportunity to explore innovative alternative UV treatment options in the future; not just dependent on IHT.

Both options will go forward at this time for north of the ship channel to allow for interim and build out conditions.

South of the Ship Channel the preferred location for water treatment is location B.

Option 2-A: All treatment flows to facility at Don Greenway Park area (B). This provides an opportunity to explore innovative alternative UV treatment options for South of Ship Channel, creates an independent treatment system, can be integrated with the natural environment, provides opportunities for public interaction and education on stormwater treatment processes.

DISINFECTION LOCATION OPTIONS



- A Turning Basin Square
- B Don Greenway Park
- C Satellite Facility near the Ashbridges Bay Treatment Plant
- D Lower Don Lands BFF (Ballasted Flocculation Facility)

EVALUATION OF ALTERNATIVES

CRITERIA	2-A South of Ship Channel - All 1 Year Flows to BFF/UV at Don Greenway Park	2-B South of Ship Channel - All 1 Year flows to LDL BFF	2-C South of Ship Channel - All 1 Year Flow to a satellite wet weather flow treatment facility near the ABTP via Inner Harbour Tunnel (IHT)	2-D South of Ship Channel - 1 Year Flow Split Between a satellite wet weather flow treatment facility near the ABTP and BFF/UV at Don Greenway Park.	2-E North of Ship Channel - All 1 Year flow to a satellite wet weather flow treatment facility near the ABTP	2-F North of Ship Channel: 1-year flow from Film Studio Precinct and East Port area to potential BFF/UV at Turning Basin, 1 year flow from remainder of area to Ashbridge's Bay Treatment Plant via Inner Harbour Tunnel.
CREATING AN INTERESTING URBAN MIX	●	●	●	●	●	●
CONNECT THE PORT LANDS TO THE CITY	Better connects the Port Lands with the South of Eastern area and the rest of the city	●	●	●	●	●
	Impacts to existing physical barriers	●	●	●	●	●
	Opportunities for providing linkages between natural habitat and open spaces and improving biodiversity	●	●	●	●	●
LEVERAGE ASSETS	Cultural heritage resources	●	●	●	●	●
	Archaeological resources + traditional uses of Aboriginal people	●	●	●	●	●
	Impacts to existing/planned parks and open spaces and opportunities for enhancements	●	●	●	●	●
	Compatibility with the natural environment	●	●	●	●	●
Place-making opportunities	●	●	●	●	●	●
CONTRIBUTE TO THE SUSTAINABLE FUTURE OF THE CITY	Opportunities for innovation	●	●	●	●	●
	Climate change resiliency potential	●	●	●	●	●
Consistency with approved area Environmental Assessments	●	●	●	●	●	●
Engineering Feasibility and construction cost	●	●	●	●	●	●
Impacts on existing municipal infrastructure and utilities	●	●	●	●	●	●
Property acquisition costs	●	●	●	●	●	●
Maintenance and operations implications	●	●	●	●	●	●
OVERALL PERFORMANCE	●	●	●	●	●	●

● Very Poor ● Poor ● Good ● Very Good

GLOSSARY OF TERMS

- ABTP** – Ashbridges' Bay Treatment Plant
- TB** – Turning Basin
- WDL** – West Don Lands
- IHT** – Inner Harbour Tunnel
- BFF** – Ballasted Flocculation Facility
- UV** - Ultraviolet
- DGP** – Don Greenway Park
- DMNP EA** – Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment

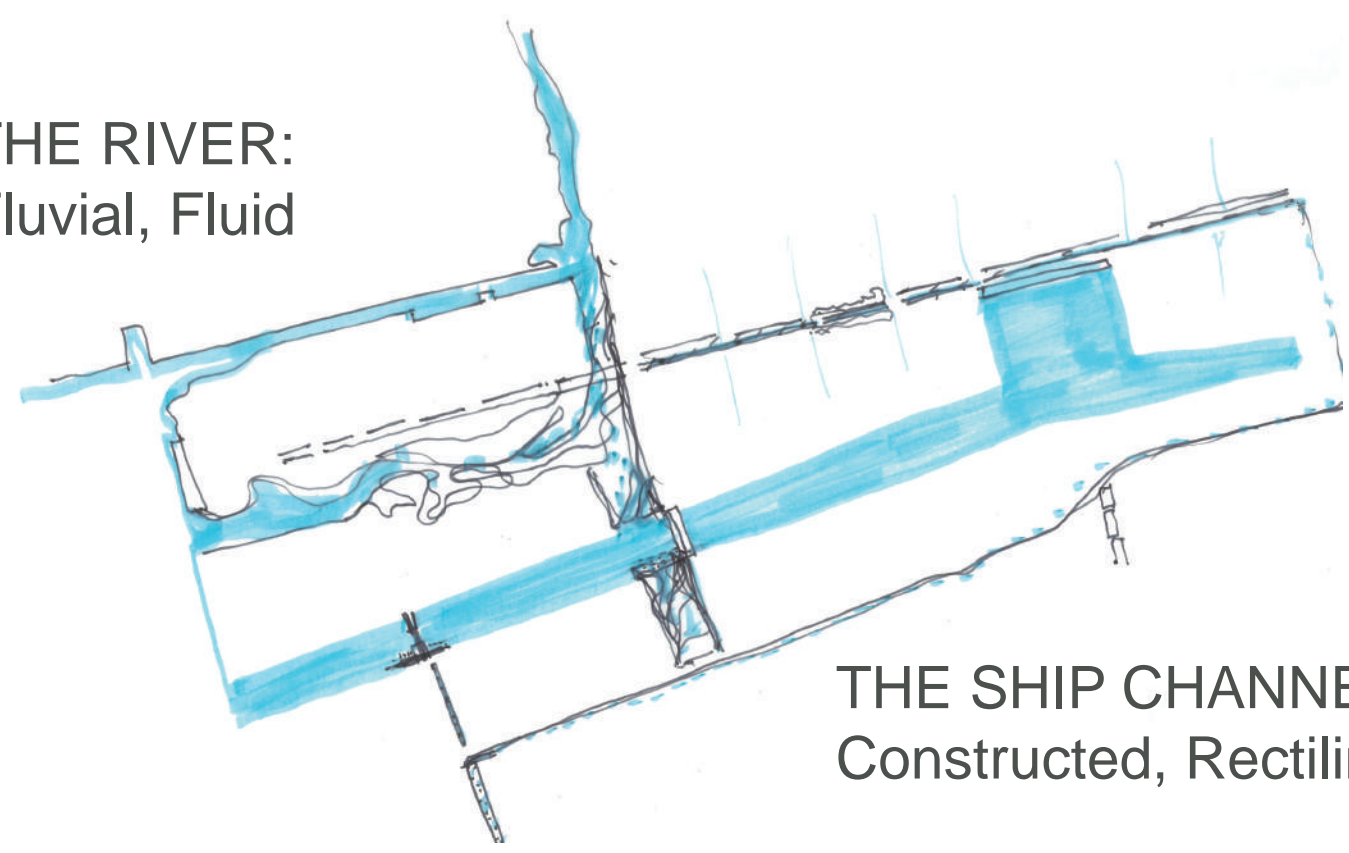
PORT LANDS + SOUTH OF EASTERN TRANSPORTATION + SERVICING

WATER AS A RESOURCE

'Celebrating stormwater' is a key driver in the design of the streets. Stormwater features are being integrated into the public realm to ensure a memorable role for water in the Port Lands.

The River and the Port

THE RIVER:
Fluvial, Fluid



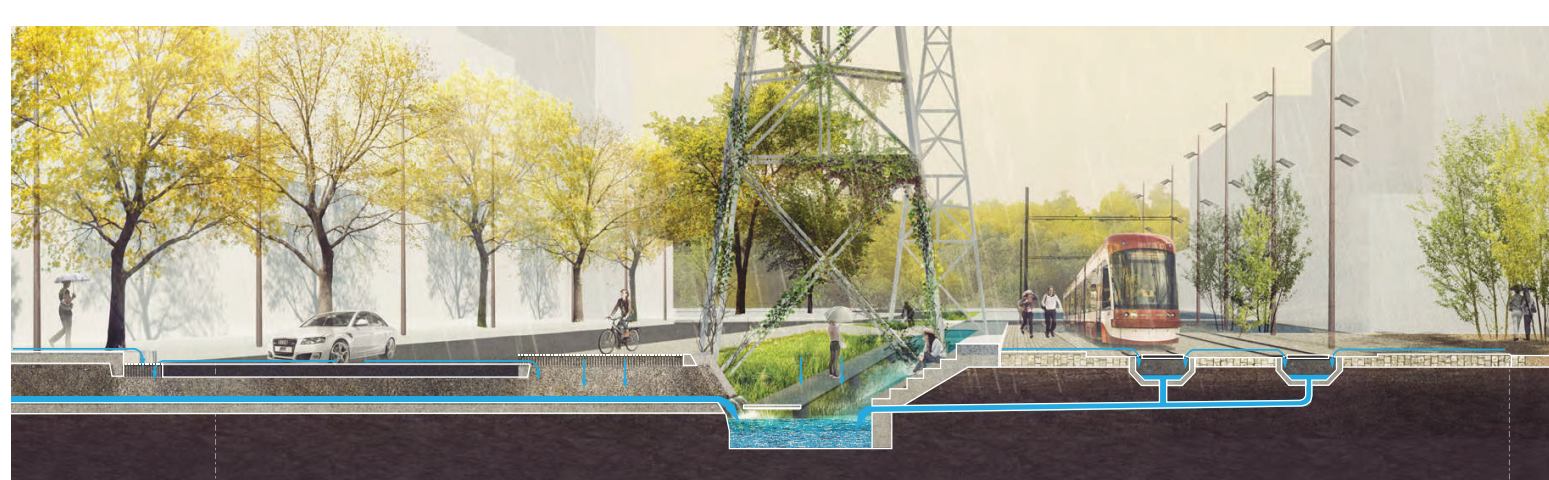
THE SHIP CHANNEL:
Constructed, Rectilinear

The Lower Don Lands will revive the river, obscured by past industry.

Now the rest can celebrate what industry has built here, is building here, and what will follow.

Integrating Storm Water as a Public Realm Feature

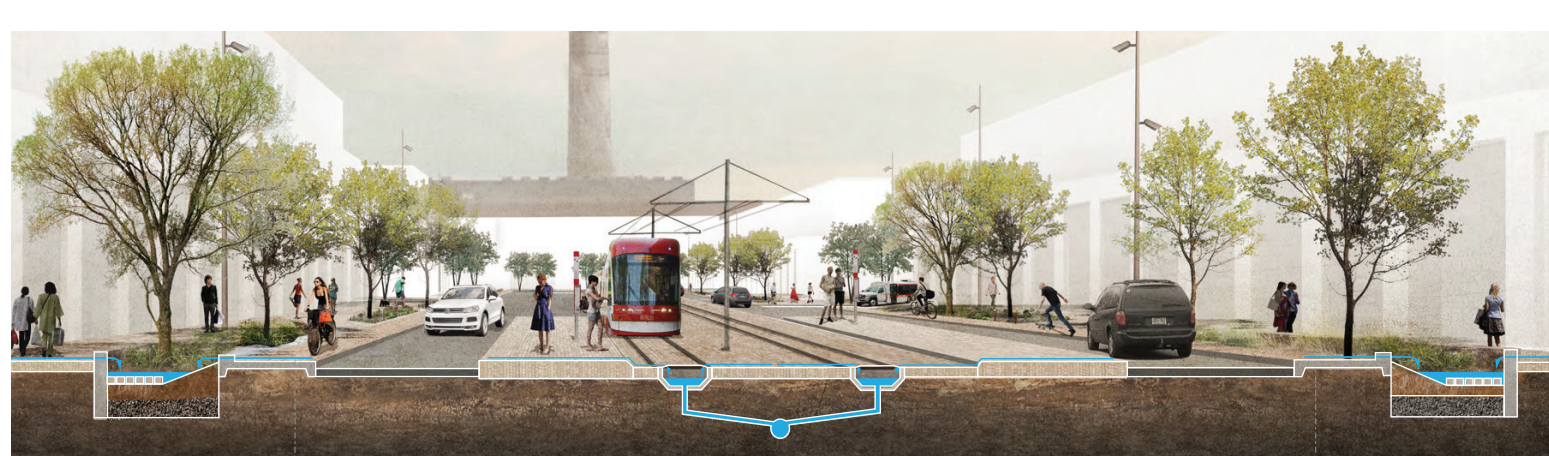
Designing with Water as a Resource embeds the movement and treatment of stormwater into the everyday experience of streets and open spaces. The approach daylights stormwater management through open channels, swales, wetlands and tree plantings that are integrated into the public realm - enhancing the Port Lands identity and position in the Lake. Stormwater elements take on new meaning - offering communal places for shade and gathering and bringing the narrative of water to life.



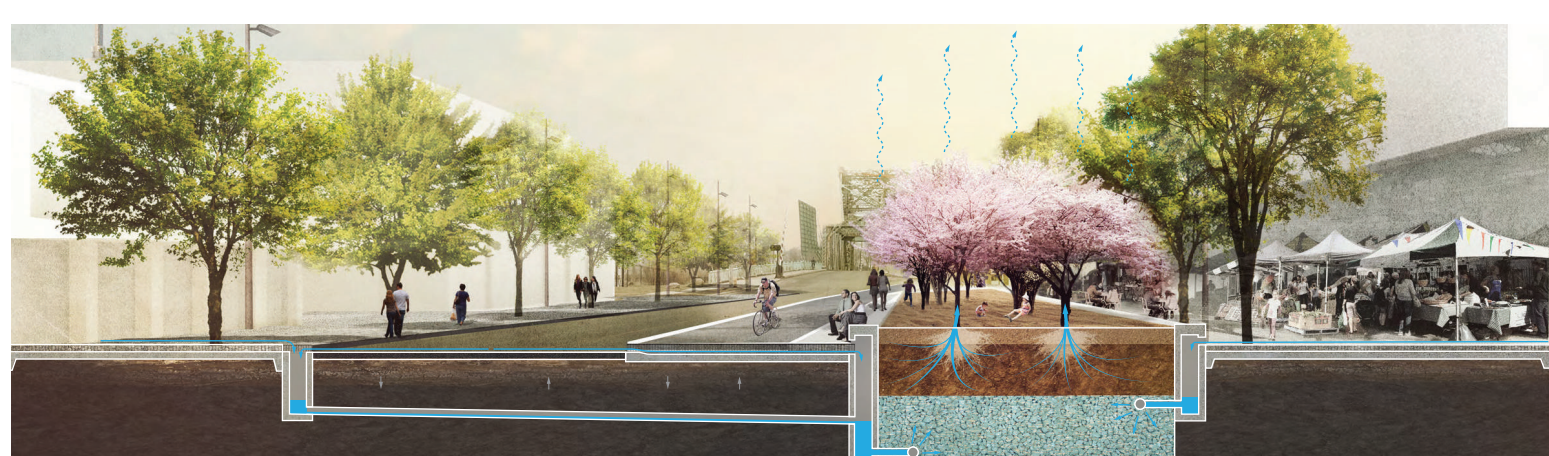
1. Commissioners - Planted and Programmed Open Channel



2. Unwin - Bioswale

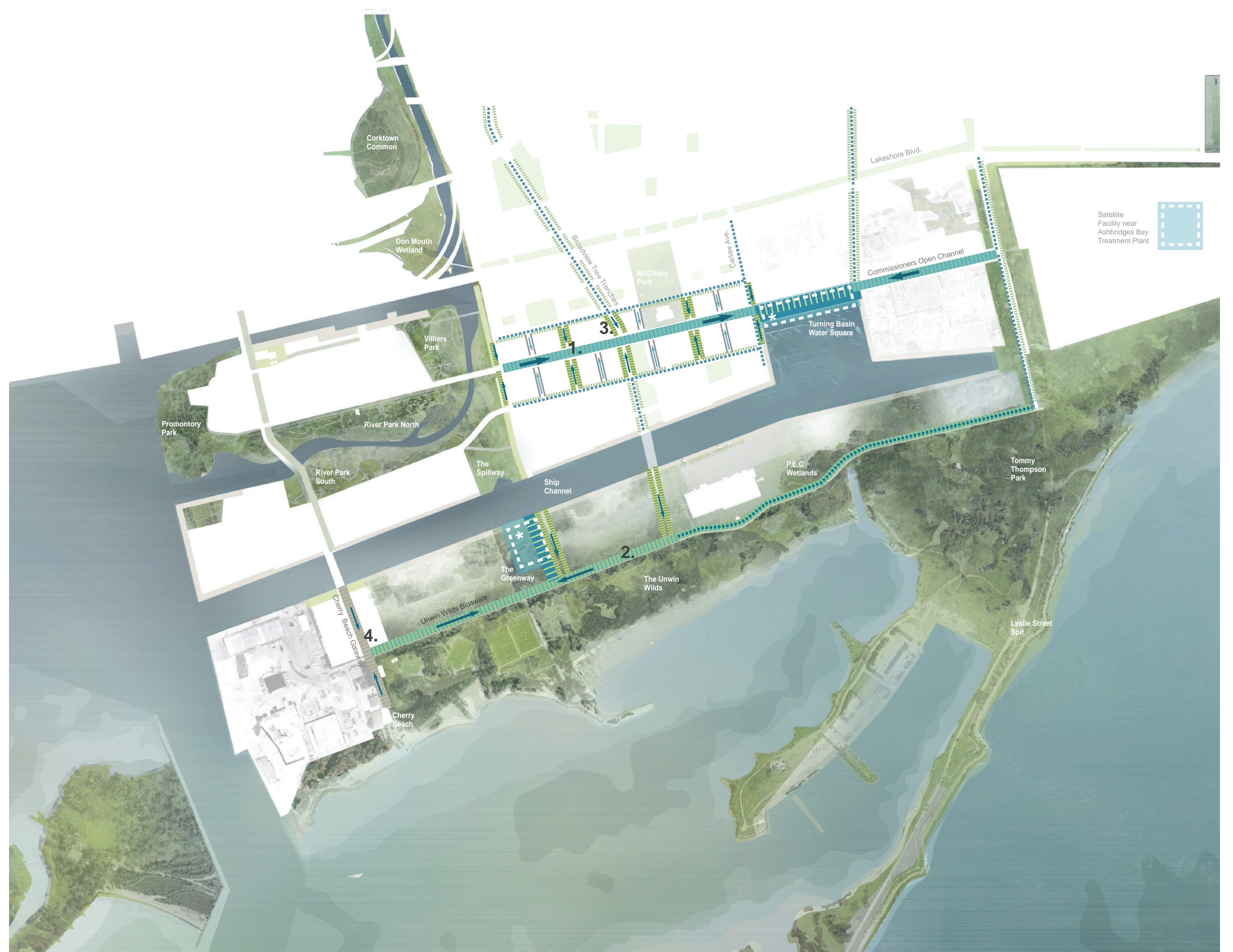
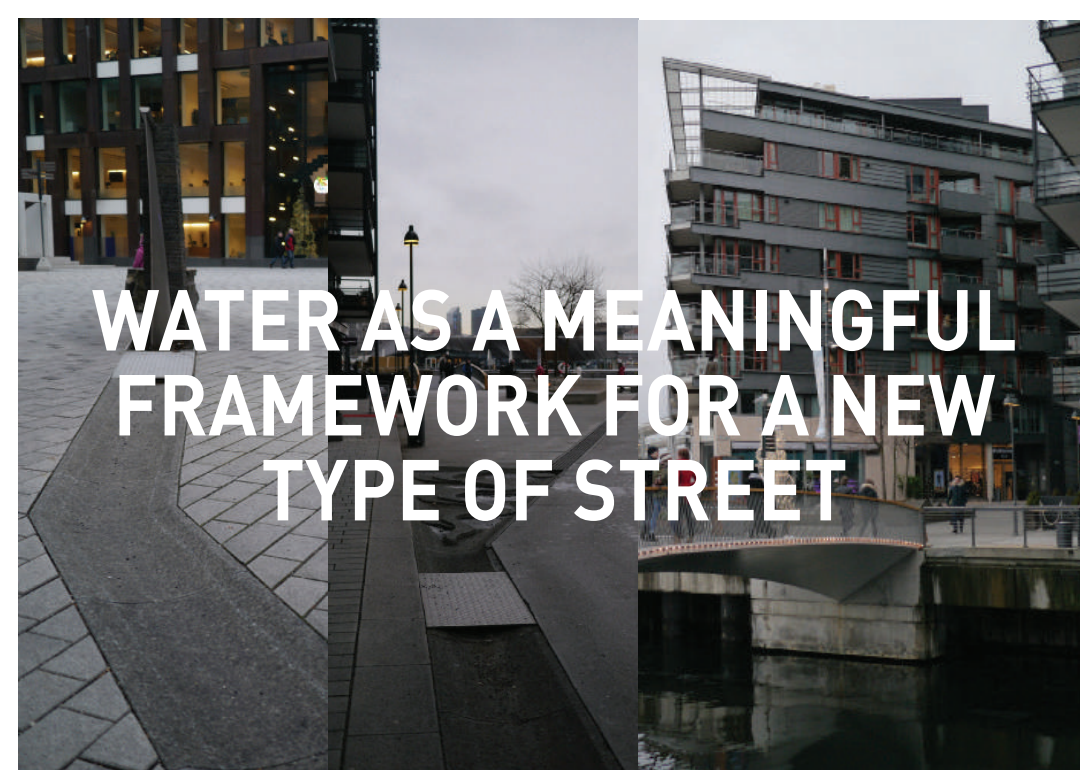


3. Broadview - Tree Trench Open Channels



4. Cherry - Beach Gateway Open Channel and Sand Filter

Water as a Meaningful Framework



<p>OPEN CHANNELS</p> <ul style="list-style-type: none"> — Open channel - Commissioners — Open channel - Cherry Beach gateway — Open channel - Unwin Wilds west — Open channel - Tree trenches — Open channel - Hardscape 	<p>PLANTED HYBRID CHANNELS (Combination of above ground open channel and sub-surface sewer)</p> <ul style="list-style-type: none"> — Hybrid channel - Unwin Wilds east — Hybrid channel - Tree trench <p>BLUE/GREEN PARKS + OPEN SPACE</p> <ul style="list-style-type: none"> — Open Space System — Park/open space with constructed wetlands/pools 	<p>DISINFECTION LOCATIONS</p> <ul style="list-style-type: none"> — Preferred disinfection location — Opportunity to explore and showcase innovative treatment methods, integrated into the open space system
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